DOCUMENT RESUME

ED 186 868 CS 005 452

AUTHOR Diehl, William A.
TITLE The Variable and Symbolic Natures of Functional Literacy: An Historical Review and Critique of Research.
PUB DATE Apr 79
NOTE 108p.; M. A. Thesis, Indiana University

EDRS PRICE MF01/PC05 Plus Postage.
DESCRIPTORS Adult Literacy; Cultural Influences; Educational Philosophy; *Functional Literacy; Functional Reading; *History; *Literacy; *Political Influences; Reading Research; *Reading Tests; *Research Needs; Social Influences
IDENTIFIERS *Job Literacy

ABSTRACT

The variable nature of literacy is discussed in chapter one of this paper, including problems of arbitrary standards, instruments, and criteria. In the second chapter, some of the historical roots of the concept of literacy are traced both to show how the concept of literacy evolved and to show how literacy has always been closely tied to the spirit of the times. The social, political, and educational uses and abuses of literacy assessment are examined and an attempt is made to place current efforts in a social, political, and educational context, including current assessments of functional literacy. The need to assess actual literacy demands and individuals' abilities to handle those demands is stressed in chapter three. In chapter four, possible instruments to do this type of assessment are proposed for job-related literacy demands and the results of a field-testing of these instruments is presented. (MKM)

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THE VARIABLE AND SYMBOLIC NATURES OF FUNCTIONAL LITERACY: AN HISTORICAL REVIEW AND CRITIQUE OF RESEARCH

by

William A. Diehl

Thesis submitted in partial fulfillment for the requirements of a Masters degree in Reading Education, Indiana University, April, 1979.

Thesis Advisor: Dr. Larry Mikulecky

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CHAPTER ONE:

INTRODUCTION: THE VARIABLE NATURE OF LITERACY

In 1968, James E. Allen, then U.S. Commissioner of Education, launched a major drive to eliminate illiteracy in the U.S. by 1980. This drive led to the establishment of the national Right-to-Read program and to a major report from the National Academy of Education entitled Toward a Literate Society, edited by John Carroll and Jeanne Chall. The committee preparing this report proposed that the achievement of literacy was "one of ensuring that every person arriving at adulthood will be able to read and understand the whole spectrum of printed materials that one is likely to encounter in daily life" (Carrol & Chall, 1975, p. 8). In a commissioned paper in the same report, Bormuth (1975) observed that literacy, in its broadest sense, can be defined as the ability to read (and write) and appropriately respond to all possible reading (and writing) tasks.

Using such definitions, few literate people could be found in a society innundated with highly technical, specialized reading and writing materials. Clearly, as Bormuth points out, such definitions have little practical use for assessment, educational development, or testing.

The committee goes on to recommend an optimum standard: "In terms of grade levels of difficulty, a meaningful goal might be the attainment of

twelfth-grade literacy by all adults . . . our national educational policy is that every child is expected to complete at least the twelfth grade; we ought then to expect every child to attain twelfth grade literacy" (Carroll & Chall, 1975, p. 8). While such a goal may be laudable in and of itself, there are major problems in equating such a goal with "literacy." One problem is that such a statement implies that all Americans who can score above a 12.0 level on some standardized test are "literate" while all Americans failing to meet that level are not yet fully literate. Since many literacy demands in our society require far less than a twelfth grade reading ability, while other demands require more, such a standard is arbitrary and thus not meaningful. This paper will later present other assessments and suggested criteria for judging literacy and will show that most assessments have suffered from the same problem, that is, of choosing arbitrary criteria and standards for assessing literacy.

A second problem with the committee's suggestion of using a twelfth grade literacy standard stems from the operational definition of "twelfth grade literacy." The standardized test score which converts to the twelfth grade equivalency score is that score which the average twelfth grade student makes. More precisely, it is the mean score obtained by all the twelfth graders taking the test when the test was last standardized. Thus, if reading abilities of Americans were improved so significantly that all Americans attained at least this magic score, then the score would no longer represent the average twelfth grade score. In fact, it would be far below the average.

The test would have to be re-standardized, the score needed to attain a twelfth grade level sharply raised, and a high percentage of Americans would once again fall below the twelfth grade equivalency mark. In such a Catch-22 situation, "full literacy" labels would be perpetually denied to perhaps half the population. Such a situation is ludicrous and obviously not what the commission meant when they suggested the twelfth-grade literacy level. Chall (1975) suggests that increased literacy levels have already caused many tests to be restandardized. "Most of these (tests), and especially those for the early grades, require a greater absolute mastery of reading for the same grade equivalents or percentage ranks" (p. 7). The solution would seem to be one of simply not restandardizing the tests and thus have a constant twelfth grade equivalency score against which to measure people. But with such a solution, the first problem mentioned above re-emerges; the tests themselves become the standard of literacy--an arbitrary and meaningless standard, with little reference to the literacy demands imposed by society. Recently, some researchers have attempted to circumvent this problem by designing standardized literacy tests based on common literacy demands (such as completing an insurance form, reading a want-ad, etc.) Such tests have been designed by the Adult Performance Level (APL) project (Northcutt, et. al., 1975), by Louis Harris and Associates (the Survival Literacy Study, 1970, 1971), the Educational Testing Service (Adult Functional Reading Study, Murphy et. al., 1975), the National Center for Health Statistics (The Brief Test of Literacy, Vogt, 1973), and by the National Assessment of Educational

Progress (the Mini-Assessment of Functional Literacy, Gadway and Wilson, 1975). Such tests, because they use real-life reading tasks, are usually classified as functional reading tests, and attempt to assess how many Americans do not have the reading and writing skills needed to function in society. These assessments, and their greatly varying conclusions, will be examined in Chapter 3. Although these tests do attempt to assess Americans' abilities to meet common literacy demands, they all suffer from the same sorts of problems of arbitrariness as do other standardized reading and writing tests. Which "real life" literacy tasks should be included in the test? How should comprehension or ability to perform be measured? What criteria should be used to decide if an individual "passed"? The various tests have answered these questions in varying ways, but, in the final analysis, always in somewhat arbitrary ways. The decisions were by nature arbitrary simply becuase they weren't actually based on what each individual tested had to face in terms of literacy demands. Thus, because the tests had to be standardized in order to be used widely, they had to rely on representative tasks and arbitrary criteria, and could not measure how well individuals performed on the real-life tasks they were actually confronted with. Since such tasks vary among individuals, the notion of functional literacy is automatically variable, and any standardized measurement, as a result, is arbitrary.

This problem of arbitrary standards, instruments, and criteria--a problem which continually muddies all discussions of literacy--stems from a

problem of defining the concept of literacy. Bormuth (1975) points out that the concept of literacy is generally approached as if it were a product of nature--like the growth of corn. A naturalist can study the growth of corn, can measure its aspects, without any reference to some ideal growth pattern. Literacy, however, cannot be isolated and examined in such a natural state. The concept of literacy is automatically tied to some ideal. Thus, if we say that "25% of the citizens of Xville are illiterate" we are not describing anyone's actual abilities; we are, rather, comparing abilities against some ideal. This ideal state, that we then call literacy, is not a fixed, natural phenomenon; it is an artifact of man. As such, it is arbitrary. For that reason, the whole concept of literacy (and functional literacy) is arbitrary; it certainly has not been consistent, and it has in many ways reflected the political, social and educational Zeitgeist--or spirit of the times--during different periods of educational history and within different countries. The Committee on Reading of the National Academy of Education stated the problem this way:

> Every commission or investigating body that has been charged with defining the extent of the literacy problem has been confronted with the fact that there is no generally accepted definition of functional literacy and that statistics on literacy are generally based on unsatisfactory data and criteria. The figures given in some sources concerning rates of literacy are generally not comparable. Statistics for the 'literacy' rates of various foreign countries as compared with the U. S. are well nigh uninterpretable, because they are nearly always based on people's own reports or upon indirect estimates derived from information on years of schooling. (Carroll & Chall, 1975, pp. 6-7).

Indeed, definitions and assessments of literacy in this country have run such a wide gamut that it often seems inconceivable that researchers are

talking about the same concept. Definitions of "a literate person" have ranged from: someone able to read and/or write his native language, according to his own assessment (Cook, 1977); or "an adult 25 years of age or older who has more than 5 years of formal education" (Berg, 1960); to someone who could perform well enough to obtain maximum value from materials he needed to read (Bormuth, 1973). Such definitions, as well as a number of others that have been advanced, differ greatly. Assessing the extent of literacy in this country also differs greatly depending upon which definition is used. Chapter 2 traces the development of the concept of literacy and shows that the definition, assessment, and educational repercussions of literacy have been strongly influenced by the particular Zeitgeist in which they were used.

The concept of literacy, then, is and has been a variable one. It is not an entity whose dimensions need only be discovered by some clever researcher who can then design instruments to measure accurately the extent of literacy; it is rather a changing, variable concept, molded both by current social and political forces, and by the ideals held up by the society for its citizens. Most importantly, it is really a function of the ability of each individual in a society to deal with the range of reading and writing tasks that he encounters and thus it is a function both of the individual and of the literacy materials themselves. It may be, then, that literacy--or at least "functional literacy"-- can only be examined in the context of individuals' ability to handle their own literacy tasks.

This study proposes to trace some of the historical roots of the concept of literacy both to show how this concept evolved and to show how literacy has always been closely tied to the Zeitgeist. The social, political and educational uses and abuses of literacy assessments will be examined and an attempt will be made to place current efforts in a social, political and educational context. (Current assessments of functional literacy will then be examined in detail.) The need to assess actual literacy demands, and individuals' abilities to handle those demands will be stressed. Lastly, possible instruments to do this type of assessment will be proposed for job-related literacy demands, and the results of a field-testing of these instruments will be presented.

CHAPTER TWO:

THE DEVELOPMENT OF LITERACY AND THE ZEITGEIST

2.1 BACKGROUND: THE IMPORTANCE OF THE SYMBOLIC NATURE OF LITERACY

Fudge (1974) points out that literacy is powerfully symbolic in our society. Literacy development is stressed for symbolic reasons, as well as for formal tasks. Symbolically, Olson (1975) suggests, literacy is seen "as the most significant distinguishing feature of a civilized man and a civilized society." For that reason, in the popular imagination, illiteracy is automatically linked with "hunger, backwardness, and overpopulation" (Olson, 1975, p. 111). While it is true that throughout history the development of literacy has gone hand in hand with the development of civilizations (Wallbank, et. al., 1972; Toynbee, 1947), this may have occurred, as Olson and Fudge contend, for symbolic reasons as much as for practical reasons. Certainly, as Fudge points out, the symbolic aspects of literacy development, which have evolved throughout history, have profoundly influenced our current society's stress on functional literacy and minimal competency. This symbolic influence accounts for the ambiguity "between the importance placed upon reading (by the general public) and the comparatively small amount of reading which the public engages in" (Fudge, 1974, p. 6).

Historically, then, literacy has been stressed for symbolic as well as practical reasons. To understand our current preoccupation with literacy (as well as functional literacy and minimal competency), we must examine the historical roots of the symbolism and practical uses of literacy.

2.2 LITERACY PRIOR TO THE FIFTEENTH CENTURY

Innes (1950) points out the relationship between the invention of writing and the rise of civilizations. By providing the means to bind together a vast range of spoken language communities, writing (and reading) may have served as an important impetus to the rise of early civilizations. Goody and Watt (1968) claim that when writing is mastered by a substantial portion of a society, profound political and social changes happen. Certainly the uniting force of the written (and later printed) word can be seen as a crucial influence on the development of more modern nations and civilizations. Thus, some rudimentary forms of literacy may in fact have caused early civilizations to rise.

Goody and Watt (1968) pointed out that literacy was stressed as a national goal (perhaps for the first time) in fifth century, B.C., Greece. Greece had extended its influences, and literacy seemed to be imperative for establishing and strengthening a political democracy (Wallbank, et. al., 1972). Evidence indicates that at that time the majority of the 'free citizens' could indeed read the laws and thus take an active role in democracy (Fudge, 1972). Although the ability to read and write may have been seen as necessary, it

was not automatically seen as important. Matthews (1975) points out that to the Greeks, as well as to the Romans and Hebrews, the teaching of school was viewed as a low profession. This would indicate that the acquiring of basic literacy skills was not necessarily viewed highly.

The stress on literacy in Western civilization originated partly from early Greece and Rome and partly from the rise of Islam. Spreading rapidly, beginning in the 600s A. D., Islam took over many of the former centers of civilization. Islamic scholars borrowed and preserved the best scientific and literary accomplishments of these civilizations. Harun al-Rashid, for example, initiated the task of translating and preserving the writings of Aristotle, Euclid, Ptolemy, Archimedes, and other Greek scientific writers (Wallbank, et. al., 1972). This task of preserving past learning was later carried out by Christian monks. But more importantly, as Islam incorporated learning from past civilizations, its own civilization flourished. Toynbee (1947) indicates that this sudden flourishing of civilization was the spark that started the Renaissance and the Reformation in Europe. Furthermore, the Koran's stress on literacy (believers are enjoined to read verses every day) may have also had some influence on European views towards reading.

While Islamic Civilization was emerging as the center of learning and literacy, Europe was being converted to Christianity and was undergoing a different sort of development in terms of literacy. Charlemagne, by his death in 814, had conquered most of Europe and had established Christianity there. Monasteries were set up throughout Europe, and they became the

center of most of the reading and writing. The clergy in many places became the literate elite (Wallbank, et. al., 1972). Even then, the clergy was not necessarily very skilled in literacy. Charlemagne was greatly concerned about this, expressing in a letter these sentiments:

> Since in three years there were often sent to us from divers monastaries letters in which . . . owing to neglect of learning, the untutored tongue could not express itself without faultiness. Whence it came that we began to fear lest, as skill in writing was less, wisdom to understand the Sacred Scriptures might be far less than it ought rightly to be. (Quoted from Wallbank, et. al., 1972, p. 193).

This concern led to his decree, in 789, that every monastery have a school for the education of boys in "singing, arithmetic, and grammar" (Wallbank, et. al., 1972, p. 192). Although such schools did foster literacy among the general population to some extent, reading and writing remained primarily the domain of the clergy. As the clergy gained in power and influence, literacy became one of the symbols of the clergy's control over the masses. Partly for that reason, Luther later strongly encouraged all his followers to learn to read the Bible.

2.3 THE REFORMATION, RISE OF NATIONALISM AND LITERACY

The idea of universal literacy as the goal for society received a major push in the 1400s. Printing was invented in 1448, and almost immediately, the Bible was made more available to the general populace. Especially in Germany, devout Christians began to study the Scriptures carefully and began to censure the behavior of the German clergy. Luther emerged as the leader of the protesters, and Protestantism was born. Luther, influenced

by the Zeitgeist (of rebellion against the clergy and the emergence of the individual believer), stressed the importance of being able to read; he preached, in fact, that one's salvation depended upon such an ability. Luther viewed this as so important that he wrote, "the civil authorities are under obligation to compel the people to send their children to school" (quoted in Eby & Arrowood, 1936, p. 91). Compayre (1907) observed: "The primary school was the child of Protestantism, and the Reformation was the cradle in which it rocked" (p. 113).

The religious and political upheavals surrounding the rise of Protestantism had other influences on the development of literacy. As the Protestants began to stress universal education, the Catholic Church responded in kind. The Jesuits in particular, partly as an effort to win souls back to Catholicism, developed a school system so superior that many Protestant as well as Catholic youth attended (Wallbank, et. al., 1972). Universal, quality education (and, consequently, universal literacy) emerged not only as important goals of a society, but also as weapons to be used in a religious war. Literacy was promoted to a large extent, as the means to train children in the faith of their parents. The resultant curriculum stressed Bible reading and dogma, a stress that was carried to America and was the first foundation of American literacy efforts.

This emerging stress on universal literacy in turn affected the Zeitgeist by encouraging the rise of nationalism in Europe. Luther's Bible (1525) was largely responsible for creating a standard literary language for all Germany

(Wallbank, et. al., 1972). Bibles appeared in other countries, in the native language of the countries, and served the same uniting purpose. Due to the nature of printing, spellings and sentence construction had to be standardized (Matthews, 1975), and thus the acquirement of literacy was facilitated and the national bond of a common language was made stronger.

The rise of nationalism, coupled with the heightened religious zealousness of the times, made countries highly intolerant of groups with dissenting religious or political views. America became a haven for such groups and they brought with them many of the ideas about literacy from Europe. The teaching of reading and writing in the country began primarily as the means of passing on religious tradition, and of reading the Scriptures (Wallbank, et. al., 1972).

The Reformation, then, created a new stress on literacy; reading was necessary to gain salvation. This stress was in reaction to an earlier Zeitgeist (in which the clergy were literate and were more powerful). It also was influenced by, and influenced, the Zeitgeist. The rise of nationalism, the standardizations of writing, the religious stress of schools, and the beginning of the American nation, were all aspects of the Zeitgeist that influenced literacy and was influenced by literacy.

2.4 THE AGE OF ENLIGHTENMENT AND LITERACY

The Age of Enlightenment (the period spanning roughly the seventeenth and eighteenth centuries) influenced the concepts and development of literacy

in new ways. Also known as the Age of Reason, this period was marked by a stress on reason and not blind faith. Literacy began to be viewed as the means for discovering truth, for examining the self, for exchanging new and 'rational' ideas. As reason took preeminence, individuals began to demand that positions in society be open on the basis of natural ability, not parental influence or hereditary right. Voltaire, for example, stressed the idea of a common gift of reason spread among all humanity (Sennett & Cobb, 1973, p. 61). Locke presented a different, though not conflicting view. In his Essay Concerning Human Understanding (1690), he advanced the idea that, at birth, the human mind is like a blank slate ("tabula rasa") and, through reflection and association, the mind combines new and old impressions to make a new idea. Such an idea, by eliminating the influences of "hereditary rights," helped form a new Zeitgeist--that of assigning power in a society on the basis of ability, not birth.

This idea of assigning power based on natural ability, as Sennett and Cobb (1973) point out, was to later profoundly affect education, most notably by creating a need for ability testing. It was in an effort to separate the "high-natural-ability" from the "low-natural-ability" children that Alfred Binet was first commissioned to design an I.Q. test. Many other tests--including many literacy and minimal competency tests--can be seen as efforts in that direction. Sennett and Cobb point out the irony that the eighteenth century stress on individual rights and abilities should result, years later, in tests that reinforce the "hidden injuries of class."

The Age of Enlightenment, by stressing natural ability, also focused more attention on the poor. Until the 1700s, education was unattainable for most of the common people (Wallbank, et. al., 1972). Several heads of state (such as Frederick the Great of Prussia and Joseph II of Austria), influenced by such works as Rousseau's Social Contract (1762) which stressed the importance of the government following the "General Will," saw fit to set up public systems of education. The Sunday School Movement, founded in the early 1700s and sponsored mainly by Methodists in England, was one of the first attempts to bring basic literacy to the poor (Wallbank et. al., 1972). The first organized literacy programs aimed at adults occurred in the late 1700s (Golub, 1975). Thus, the promotion of literacy, due to the influences of the Zeitgeist, began to take on more of a universal aim.

Literacy development was also strongly affected by the political occurrences of the times (which, in turn were caused by this increased stress on natural abilities and rights). Revolutions--most notably in the U. S. and in France--established representative forms of government based on the belief that all people should be free to make their own political, economic, and educational decisions. The growth of such types of governments led to the argument (by Thomas Jefferson, among others) that an illiterate populace could not govern itself and therefore, literacy was of the prime importance. In many instances, in fact, the right to vote became contingent on a person's ability to read and write (Goody & Watt, 1963). This type of requirement persisted in America and was later used as a way to deny voting rights to

large numbers of Black citizens. Literacy, then, also became strongly entwined with democratic ideals. The equating of literacy with full citizenship had great implications. The state had to assume some responsibility in seeing that future citizens were able to read and write. (This was later to become one impetus for establishing universal, compulsory education.) At the same time, individuals who were not going to become future citizens (such as women or Blacks) did not need to acquire basic literacy skills. Schooling--and especially advanced schooling--was advocated only for white males. Thus, the concept of literacy--what it was and who would be given the opportunity to achieve it--was largely a product of political and social influences. This concept of literacy, in turn, later helped influence political and social movements. For example, Blacks were not taught to read because they could not vote; later, Blacks could not vote because they were unable to read.

2.5 LITERACY IN THE NINETEENTH CENTURY

In the late 1700s and throughout the 1800s, literacy campaigns among adults were planned and carried out mainly by volunteer organizations including churches, missions, and nongovernmental agencies (Golub, 1975). Efforts were not widespread, perhaps, as Cook (1977) suggests, because the push westward was occupying the attention and imagination of the nation. Cook also maintains that settlers did not view literacy as a vital skill, and it was only after the frontiers were established that the nation turned attention to its social ills.

2.5.1 Literacy and Democratization

More importantly, literacy was being promoted in the 1800s through locally-run elementary schools. Increasing immigration and the need to assimilate and democratize immigrants markedly influenced the 19th century Zeitgeist. In the early 1800s education past the elementary grades was restricted to a privileged few, but the increase in immigration caused many areas to provide schooling through high school (Biehler, 1974). This extension in schooling and later compulsory education laws stemmed in large part from the need to acculturate immigrants (Violas, 1978). Horace Mann, who had great influence on American education in the 1830s and 1840s, stressed the democratization role of education. He wrote that education should become, "the great equalizer of the conditions of men--the balance wheel of the social machinery" (quoted from Biehler, 1974, p. 5). Education was seen to function as a balance wheel both by promoting equality and by promoting good citizenship. Children were to be given equal education for their own benefit--so they could become assimilated into the American culture and so they could better themselves--as well as for the benefit of the society. Violas (1978) suggests that compulsory schooling may have been more an effort to make good, law-abiding, hard-working citizens out of the immigrants than an effort to help the immigrants better their own conditions. Violas points out that Massachusetts, which was undergoing great problems in the 1840s due to urbanization, immigration, and industrialism, was the first state to pass a compulsory attendance law. Compulsory schooling,

asserted Violas, was designed "to deal with the problems spawned by these social forces" (Violas, 1978, p. 19). Literacy development, then, received a major thrust forward as America tried to assimilate (for both humanitarian and political reasons) influxes of immigrants in the mid 1800s. Massachusetts passed its mandatory attendance law in 1852; by 1900, thirty-four states and Washington, D.C. had enacted similar legislation.

The stress on the importance of education (and, consequently, literacy) in a democratic society was also felt in other countries. When the common people won the right to vote in England, they began to clamor for education. As a result, an education bill was passed under Gladstone in 1870 which set up free, compulsory education. School attendance in England increased from one to four million in ten years. France and Germany passed similar laws at about the same time, and by 1900, free and compulsory education had been established almost everywhere in Europe (Wallbank, et. al., 1972).

2.5.2 Child Labor Laws

Reform movements also strongly affected the Zeitgeist and the promotion of literacy. Child labor laws, for example, were first advocated by humanitarian reformers "who wanted to stop the brutal oppression of children, which they believed inhibited the child's normal development, rendered him useless to society during his adult years, and thus undermined the strength of the nation" (Violas, 1978, p. 20). Thus, like compulsory education, these laws were advocated both for the good of the individual and for the good of the state. In many areas, child labor laws, which were passed

beginning in the 1860s, often preceded compulsory education laws. In fact, because many citizens became concerned when all these children began roaming the streets, child labor laws may have caused the passage of compulsory education laws. Education became the way to occupy the time of these ex-workers, and it was often viewed as "the antidote for social degeneration" (Violas, 1978, p. 21).

2.5.3 The "New Industrialism"

The rise of industrialism also molded the Zeitgeist in the mid to late 1800s and it later affected the promotion of literacy. In the early 1800s, most Americans were self-employed (Maccoby & Terzi, 1972). A rapid expansion of industrialism began in 1870 and continued to the first World War (Wallbank, et. al., 1972). By 1880, over half of the American workers were wage and salary earners (O'Toole, et. al., 1973). A self-employed individual who was illiterate could cause problems only for himself. Once this individual was employed by someone else, his ability to read and write became his employer's concern. Industrial and business leaders thus became increasingly concerned about literacy development. Furthermore, the mood of a self-employed America was one of individualism. Many efforts at conformity--including literacy and the establishment of mandatory schooling--were often resisted (Violas, 1978). This 'new industrialism,' however, by removing many Americans from self-employment, may have aided in the public's acceptance of mandatory schooling.

The 'new industrialism' also produced a very wealthy class of businessmen

and industrialists. This was usually at the expense of poor working conditions and very low wages for most American workers. The government--and the middle class-had adopted a policy of laissez-faire (letting business alone), based on the ideas of Adam Smith, as originally proposed in 1776 (Wallbank, et. al., 1972). However, with the increased strength of business, the workers began to organize. Marx's Communist Manifesto (1848) and the rise of socialism in Europe helped provide the impetus for the organization of labor unions and the cries for economic justice. Wallbank, et. al. (1972) contend that this increased worker agitation caused the middle class to partly abandon the doctrine of laissez-faire liberalism. This, in turn, opened the way for the government to assume responsibility for the economic security of its citizens. This assumption of responsibility led to the passage of labor laws, of child-labor laws, of anti-trust laws, and, eventually, to the myriad of welfare laws in existence today. Indirectly, it also led to the passage of compulsory education laws and to the establishment of vocational and adult education (Wallbank, et. al., 1972; O'Toole, et. al., 197[illegible]). This turning away from the doctrine of laissez-faire and turning towards increased government responsibility was to intensely affect education and the promotion of literacy up to the present time.

2.5.4 Social Darwinism

Another important concept that emerged in the late 1800s, and which affected the Zeitgeist, as well as education and literacy, was the concept of Social Darwinism. Veblen (1902) presented this concept clearly when

he wrote:

> The life of man in society, just like the life of other species, is a struggle for existence . . . The progress which has been and is being made in human institutions and in human character may be set down, broadly, to a natural selection of the fittest habits of thought and to a process of enforced adaptation of individuals to an environment which has progressively changed with the growth of the community and with the changing institutions under which men have lived. (Veblen, 1902, p. 188).

This concept of man's place in society--with all its political, economic, racial, and educational ramifications--"became a vogue that swept western thought in the late nineteenth century" (Wallbank, et. al., p. 589). Herbert Spencer--from whom Darwin borrowed the phrase "survival of the fittest"--was a leading proponent of this view. He regarded society as a living organism in which individuals battled over meager resources, the fittest individuals survived and propagated, and thus, with each generation, mankind was a bit more advanced. Spencer consequently opposed any interference by the state with this natural development of society; he advocated unfettered business competition and he opposed all state aid to the poor, whom he "regarded as unable to compete successfully in the struggle for survival and consequently better eliminated" (Wallbank, et. al., p. 589).

The social Darwinists clearly favored the laissez-faire economic theory. In fact, Darwin's work "owed its very existence to one of the classics of this doctrine, Malthus' Essay on Population" (Himmelfarb, 1972, p. 834). The early laissez-fairists influenced Darwin who, in turn, influenced the social Darwinists.

Clearly, this philosophy runs directly counter to the idea of increased government responsibility and intervention (through child labor, welfare and compulsory education laws) mentioned above. American society, by the turn of the century, was thus embroiled in a fundamental philosophical controversy over the economic, political and educational treatment of its poorer citizens. This controversy--whether the society should have legislation and programs designed to democratize and equalize conditions among its citizens or whether it should allow a type of natural meritocracy to reign--continued to be fought throughout the 20th century. This battle, as will be shown later in this chapter, is one of the roots of America's current preoccupation with minimum competency and functional literacy.

The philosophy of social Darwinism was used as a rationalization for big business, for low wages and poor working conditions, for immigration restriction, and for the denial of educational opportunities to certain races and groups. The philosophy held that if someone was poor or if someone was illiterate or if someone had not attained the same status as the upper class, it was only because they were inherently inferior; being inferior, they had to either adjust or perish. This idea, which William Ryan discusses at some length in his classic Blaming the Victim (1971) emerged as a prevalent attitude several times in the 20th century; it can certainly be seen in statements, especially in regard to immigration, that were made around the turn of the century.

Cook (1978) for example, mentions a bill proposed by Henry Cabot Lodge--

an active leader of the Immigration Restriction League. The bill, proposed in 1896, would restrict immigration to those people who could read and write their own or some other language. Symbolically, at least, literacy showed proof of merit; illiteracy showed proof that the immigrant did not meet the standards of "the mental and moral qualities which make what we call our race" (quote of Lodge from Cook, p. 2). Lodge stated that the test of literacy would probably exclude immigrants from Southern and Eastern Europe and from Asia, and would not affect English, French, Germans and Scandinavians. Lodge, then, was advocating the use of a literacy test based on the ideas of social Darwinism. In essence, he was saying that superior people read and thus if we exclude illiterates we'll manage to exclude the lower end of the social evolutionary scale. A modified form of this view (that superior people are more literate and vice versa) is clearly part of our current symbolic attachments to literacy. The Lodge bill and similar ones proposed in 1909 and 1915 were all passed by Congress but were all vetoed (Cook, 1978).

Similar sentiments can be seen in books and articles appearing at the turn of the century (for example, see J.R. Commons, Races and Immigrants in America, N.Y.: Macmillan, 1907; and E.A. Ross, The Old World and the New, New York: Century, 1914). Violas (1978, p. 10) cites an article by David Starr Jordan ("Closed Doors on the Melting Pot") as being one of many expressing these views. According to Violas, Jordan "argued that national survival depended on the preservation of the original racial

characteristics--self-control and a love of freedom--that had sustained the emerging democracy. The new immigrants, according to Jordan, brought different and inferior racial traits that were incompatible with democracy . . ." (p. 10).

2.5.5 Increasing Immigration

The rise of these social Darwinists as a major influence on the Zeitgeist, can be seen as a reaction to the changing nature of immigration in the late 1800s and early 1900s (Cook, 1977; Violas, 1978; Wallbank et. al., 1972; Himmelfarb, 1972). In the 1860s, 2.3 million immigrants came to the U.S.; 88 per cent of these immigrants were from northwestern Europe. In the first decade of the 1900s, immigration increased to its zenith of 8.8 million; over 70 per cent of these immigrants were from Southern Europe (Violas, 1978, pp. 8-9). Additionally, the nation saw a great influx of Chinese laborers in the 1870s and 1880s. This influx was halted in 1882 by a law restricting further immigration of Chinese (Cook, 1977). Many native-born Americans, who saw jobs going to the immigrants who would work for low pay, and who had a distrust of people whose language, appearance and customs were so different, found in the concept of social Darwinism a rationale for their anti-immigrant feelings.

Since many of these new immigrants were illiterate, literacy tests were advocated to separate out the most 'undesirable.' Perhaps more important than this use of literacy to restrict certain peoples from immigrating, was the fact that literacy took on a very symbolic aspect. Literacy, in Sennet

and Cobb's (1972) terminology, became a "badge of ability." To people who advocated the social Darwinian view, literacy was a badge of people with merit, of people who had reached higher planes in the evolutionary scale. This equating of literacy with natural ability and an advanced state of development (both in terms of individuals and nations) has had a powerful impact on our views towards literacy, even to the present day. The notion that illiteracy is symbolic of backwardness can be seen in most accounts of literacy problems. Harman (1970) laments countries "harboring" vast numbers of illiterates (as if illiteracy were smallpox); Cook (1978) includes with her reports of numbers of illiterates at different times, statements such as "these illiterates were examples of wasted economic and human potential" (p. 3); the various functional literacy test results are reported by the news media in terms of righteous indignation--as if the accounts were asking, "how could we allow so many Americans to remain sub-human?" Perhaps most importantly--and perhaps the most destructive aspect of this symbolic meaning of illiteracy--is the fact that it leads to the assignment of low personal status to illiterates, both by themselves and by society (Illich, 1970). This assignment of low status can be seen as having its roots in the symbolic aspects that literacy assumed during the time of the social Darwinists. This symbolic meaning of literacy can also be seen as a partial answer to Olson's (1975) fundamental question in his Review of Towards a Literate Society, namely: "Why can literacy be taken as an index of cultural sophistication and personal competence and embraced wholeheartedly as a social policy?" (p. 114). This

policy is embraced because we still believe that, symbolically at least, literacy is the hallmark of a civilized person in a civilized society. This attitude was partly spawned by social Darwinism in the 1800s. Literacy represents a high point on a social Darwinian evolutionary scale.

2.5.6 Summary: Literacy and the Zeitgeist Prior to the Twentieth Century

In this section it has been shown that, by the beginning of the 20th century, literacy development had gone through many stages. The whole concept of literacy--what it was and who should be entitled to it--had changed several times, each time both in response to political, religious, social and educational forces, and as a cause of political, religious, social and educational changes. Generally, a literate person in the time of the Reformation was someone (probably a man) who could read the Scriptures. This definition of literacy was shown to be an outgrowth of the Reformers' belief that reading the Bible was necessary for salvation; in turn, this stress by the Protestants led to the establishing of quality schools by both the Protestants and the Catholics as the religionists battled to win souls. The equating of literacy with the ability to read the Bible continued well into the 1800s. The Age of Enlightenment, however, added another dimension to the conception of literacy. At least among the upper classes, a literate man came to be viewed as one who could read well--at least well enough to understand the philosophers and political theorists writing at the time; this ability to read well became seen as a means of discovering truth (for truth was no longer the exclusive property of theologians). During the same period, democracies

were established and literacy was stressed for an enlightened citizenry. Even though literacy was advocated by religious leaders, by philosophers, and by democratic leaders, it remained a skill in the hands of an elite few. Fay (1978) indicates that only 15 per cent of the American people were literate at the time of independence.

The influx of immigration, the rise of urban centers and the new Industrial Revolution caused literacy to assume a more universal nature. Universal compulsory education emerged as the chief means to create a literate, Americanized population. Compulsory education laws were advocated for humanitarian reasons (to help the immigrants adjust and better themselves) as well as for political and social reasons (to counteract 'degerative' forces, to rapidly assimilate immigrants, and to keep children off the streets). This change in the aims of education and literacy began to direct literacy development away from simply promoting Bible reading or the reading of philosophers and towards much broader aims. Literacy development began to be used for vocational, economic, citizenship, and cultural ends. Literacy also took on symbolic meanings as a result of the views of the social Darwinists; literacy became equated in the American consciousness--to a greater extent than before--with cultural sophistication and personal competence. Literacy became a tool to separate the advanced individuals (those with merit) from the backward individuals (those who were losing out in the evolutionary struggle).

This section has traced, then, some of the roots of our current conceptions

of literacy and shown how these conceptions are often products of--and producers of--the Zeitgeist (the spirit of the times).

2.6 LITERACY IN THE TWENTIETH CENTURY

Introduction

By the early 1900s, compulsory education had been established in all states and American education had become an institution. Elementary and secondary schools were the primary tools for promoting literacy. It was assumed that through the schools literacy was available to all children and that a literate society would result (Violas, 1978). Concern over literacy began to focus on the adult population--the segment of the population that had not necessarily received schooling. Literacy education, in fact, became identified as adult education. Assessments of literacy, literacy projects and campaigns, and concerns over illiteracy focused on the adult. An interesting distinction was established that is certainly followed today: reading and writing instruction take place in schools with children; literacy instruction takes place with adults. Much of the recent literature on literacy focuses on adult literacy for that reason. This section will attempt to examine the promotion of literacy as it occurred both in public schools and in adult education settings. Wanda D. Cook, in Adult Literacy Education in the United States gives a thorough treatment to adult literacy in the 1900s; the reader is referred there for a detailed account of programs, legislation, materials and assessments.

2.6.1 Major Influences on Literacy and the Zeitgeist

A number of influences, many of which had their roots in the events of the 1800s, molded the definitions, assessments and promotion of literacy in the 1900s. Such influences, which will be discussed in detail, include: differing views about the goals of education; the society's needs to protect and develop itself; business and industrial interests; progressive reforms and the struggle for equal rights; ability testing; and the continuing conflict between the meritocratic or democratic role of American education. These influences can be seen both as shaping the course of literacy promotion in this country, and as underlying our current definitions, assessments, and attitudes towards functional literacy. Each influence will be discussed from these two perspectives.

2.6.2 Differing Views About the Goals of Education

Since public schooling was the main thrust of literacy development in this century, the underlying objectives of such education determine the motivations for promoting literacy. The motivations indicate the types of programs, the definitions, the assessment techniques, and the views towards literacy that are stressed. Unfortunately (or perhaps fortunately), American education is not characterized by one set of underlying objectives. This was, as the last section showed, true in the 1800s (for example, the progressive reformers stressed education as a means for bettering the immigrants' lives; social Darwinists, on the other hand, stressed education as a means of sorting out people by natural ability, and of excluding "undesirable" immigrants).

The conflicts of differing objectives continued throughout this century. Underlying objectives have changed and have varied from place to place and, thus, so have the reasons and techniques for promoting literacy.

Tyler, in his classic Basic Principles of Curriculum and Instruction (1949) argues that basic educational objectives can, and do, come from a variety of sources. He divides the sources into four camps: progressives, essentialists, sociologists, and educational philosophers (pp. 4-5). Progressives, in Tyler's view, emphasize the importance of studying the interests, problems and perceived purposes of the child. Curriculum is then designed around promoting the interests, solving the perceived problems, and furthering the purposes of the child. In this view, literacy becomes a tool to help the child develop to his own desired potential.

Essentialists emphasize the cultural heritage of the child and stress the need for education to pass the vast store of accumulated knowledge on to the next generation. Essentialists focus on objectives derived from outside the child's own perceived needs or desires. In this view, literacy is a skill which enables the child to have greater access to his cultural heritage; literacy is promoted for the sake of this heritage, and not simply for the sake of the child's felt needs.

Sociologists and others concerned with the pressing problems of society view the school as the place for children to learn how to deal effectively with social, political and economic problems. Objectives for education, they feel, should be derived from studying contemporary problems, and the

schools should then provide the skills, knowledge and attitudes that will enable the children to function later. In this view, literacy would be promoted for vocational, citizenship, and other 'functional' reasons. Current functional literacy tests (which measure ability to fill out forms, read telephone books, etc.) and the current public disillusionment with education ("it isn't preparing the children for the real world") can be seen as outgrowths of this philosophical stance. Functional literacy and minimum competency are not concerned with how self-actualized individuals are because of education, nor with how much of their cultural heritage they've learned; functional literacy and minimum competency tests are designed to measure the ability to cope in society. This ability need not necessarily be the goal of American education at all.

Tyler's fourth group--the educational philosophers--believe that there are basic values in life "transmitted from one generation to another by means of education" (Tyler, p. 5). Through philosophic study, these basic values (which are felt to be essential to a satisfying and effective life and to the making of a good society) can be identified and thus provide the source for underlying education objectives. In this view, literacy is a tool to help learn about and incorporate the essential values of life.

Tyler goes on to suggest that objectives can be, and are, derived from studies of the learners themselves, from studies of contemporary life and/or from studies of particular subject areas. Objectives drawn from these various sources may often prove to be conflicting. Certainly, such studies

would produce more objectives than a school could hope to meet. Therefore, Tyler screens all these objectives through our current knowledge of teaching-learning, and through the school's basic philosophy of education. The basic philosophy, then, determines both the underlying objectives of education and the particular objectives a school system chooses to try to meet. With more and more states passing minimum competency laws, with increased public pressure to "return to the basics," with increasing concern about graduates who cannot read well enough to cope in society, it would seem that our nation's basic philosophy of education--and consequently its objectives for education--are reflecting more and more Tyler's "sociologist" and "essentialist" points of view.

A second way of viewing the varying educational philosophies of the 20th century is given by Rich (1974). Rich proposes four divisions of philosophy--two dealing with the extrinsic and two with the intrinsic values of education. The two extrinsic-value philosophies revolve around 1) what education will do for the individual (e.g. guarantee a better job); and 2) what education will do for society (e.g. create better citizens, meet manpower needs). The two intrinsic-value philosophies are: 1) life is development and development is growth (Dewey is the main proponent); and 2) education is the initiation of the young into worthwhile activities (Peters is cited as the main proponent). It appears that our current views towards education and literacy, and our current methods of assessing functional literacy, stem far more from the extrinsic-value philosophies of education.

These varying educational philosophies, and the resultant direction and purpose that they give to education, have waxed and waned throughout this century. As philosophies changed, so too did the reasons and methods for promoting, defining, and assessing literacy. This can be seen clearly in the conflict over whether schools should be meritocratic or democratic. This conflict, as shall be discussed in a later section, may have profoundly shaped the direction of literacy development in the 1960s and 1970s.

2.6.3 Society's Need to Protect and Develop Itself

A second major influence on literacy in the 20th century came from the society's need to protect and develop itself. As was outlined in the last section, education (and thus literacy) emerged as a means of assimilating immigrants and transforming them into worthwhile, productive citizens; such a goal was clearly motivated by the interests of the state. This can be seen clearly in a 1914 bulletin of the U. S. Bureau of Education:

> Since all classes of our heterogeneous society are active factors therein, the State maintains schools to render its citizenship homogeneous in spirit and purpose. The public schools exist primarily for the benefit of the State rather than for the benefit of the individual. The State seeks to make every citizen intelligent and serviceable. (Hand, 1914, p. 105).

Similar statements can be found at other times in the 20th century. Violas (1978) points out that the "civic purposes of compulsory school attendance surfaced in the subsequent judicial interpretation of such legislation" (p. 23). Violas goes on to quote Newton Edwards from his The Courts and the Public Schools (1940, p. 480): "In requiring attendance upon state schools, or others substantially equivalent, the legislature does not confer a benefit

upon the parent, nor primarily upon the child; it is only doing that which the well being and the safety of the state itself requires" (quoted in Violas, p. 23).

It is interesting to note how a nation dedicated to principles of liberty and privacy could give as much power to an institution as it did to schools with compulsory education laws. The last section detailed some of the reasons: increased industrialization led to less self-employment and thus less feeling of individualism; distrust of immigrants--especially from Asia and southern Europe--coupled with child labor laws, led to the public's concern about Americanization and about what to do with all these foreign children out on the streets; and the idea that places in society should be awarded according to merit and not birth caused democratic leaders and educators to call for equal opportunities for all. One other reason that the American people were willing to surrender so much personal liberty to the schools was that the schools began to be viewed as absolutely necessary for the state to survive. Violas (1978) traces this view to the turn of the century. In 1907, James B. Aswell, superintendent of public education for Louisiana addressed the National Education Association. "With rhetoric that became increasingly familiar in the twentieth century, Aswell argued that all members of a society are so interconnected that the actions of each affect all. The state, as the protector of all, has the right to control each child's education because the child is a ward of the state.' The child's right, he claimed, is 'to demand such opportunity as will enable him to render, in his own way, the most efficient service and thus become a valuable asset to the state, worthy

of citizenship'" (quote from Aswell, 1907, p. 152 in Violas, 1978, p. 24).

This concept--that the child is fundamentally a ward of the state--has remained with us throughout this century. Parents are jailed if their children do not attend school; every state requires a certain number of years in school, and a certain number of days of attendance. Such laws clearly stem from this concept. Education (and literacy) are promoted for the interests of the state.

A logical extension of this concept provides a rationale for competency testing and for 'functional literacy' tests. If education is provided for the interests of the state (and all its citizens) then the schools must ensure that all the students meet the minimum requirements needed by the state. Schools must ensure, for example, that all graduates (or even all students) be able to read and write well enough to function, to be worthwhile citizens. If the schools do not do this, they have failed to meet their part of the contract. The state has the power--and the obligation--to require minimum competency from all students; such competency can be measured through various tests, and thus the state is obligated to require that students pass such tests. In this sense, literacy is automatically tied to an abstraction (Bormuth, 1975), namely, the minimum skills needed by the state. Literacy is thus somewhat arbitrary and tied to a particular Zeitgeist; minimum skill levels change as the needs of the state change.

This extension of the basic idea of providing education for the interests of the state to the idea of requiring some sort of competency testing is by no means new. In 1911, four years after Aswell suggested that the child was

the ward of the state, the NEA, in its "Declaration of Principles," included a provision that would have kept children who were unable to pass certain physical and mental maturity standards in permanent custody of the schools. Children or youth "failing to meet such maturity tests at school-age limit should remain under public supervision and control, either until they reach maturity, or permanently" (NEA Addresses and Proceedings, 1911, p. 32). Violas (1978) cites an even stronger position taken by Charles A. Ellwood, professor of sociology at the University of Missouri. Ellwood suggested that educators should set definite educational standards and requirements and, in his words, "then let every child in the state be 'sentenced,' as it were, by a rational compulsory education law, to complete this requirement of education in our public schools before they are permitted to go forth and take their place in the world of work" (Ellwood, 1914, p. 572). Ellwood felt such a proposal would "have a eugenic value for the race" because those people who could not meet the requirements for citizenship would then be turned over to other institutions for their care and training. Violas notes, "Presumably, these institutions would prevent such undesireables from procreating" (Violas, 1978, p. 25).

Ellwood's proposal was not enacted into law, but it does show the abuse to which the state-benefit theory can be extended. Since we are currently moving towards more stress on minimum competency and functional literacy testing, (and thus possibly towards more reliance on the state-benefit theories) we must be alert to such potential abuses. This is especially true since

minimum competency and functional literacy tests tend to produce lower scores from minority and poor citizens (Kirsch & Guthrie, 1978; Fisher, 1978; Olson, 1975). The state-benefit theory, coupled with a neo-social Darwinism, could easily lead to such testing being used for racism and for class oppression. Newman (1978) presents convincing evidence that the "credentials" of education (i.e., a high school or college diploma), while acquired by more and more blacks, have not necessarily led to increased job and economic opportunities for blacks; a white high school drop-out has a better chance of getting a job than does a black high school graduate. If minority citizens perform poorer on functional literacy and job-entry tests, then a widespread use of such tests could be used to provide a rationale for increased inequalities of opportunity.

While promoting education and literacy for the benefit of the state has some potential dangers as outlined above, it also has important and positive consequences. Kirsch and Guthrie (1978) state in this regard: "American literacy, according to some historians (Cremin, 1970; Bailyn, 1960), had a liberating quality which served to socialize its participants in a society of emerging diversity and mobility, and to involve them in social and political issues" (p. 487). From this frame of reference, literacy is viewed as primarily helping the individual and thus, indirectly, benefitting the state.

The state-benefit theory influenced literacy development in another way in the twentieth century. The government, because it would directly or indirectly benefit from such involvement, became active in promoting and

funding literacy programs among adults. This involvement has been increasing throughout the century; it has been at its highest, however, during times when the government would benefit the most from such involvement. Cook (1977) states: "the federal government's concern with the problem surfaces mainly during times of national conflict" (p. ix). This concern, as Cook demonstrates, was highest during the two World Wars and during the Korean conflict. It was during these wars that the extent of illiteracy in the nation was realized as men, showing up to be drafted, were tested. More importantly, it was during these conflicts that illiteracy was seen most clearly as being against the interests of the state. America lost a great deal of manpower in the war efforts due to illiteracy. In the First World War, out of the 10 million men in the first registration, 700,000 were found to be totally illiterate (Cook, p. 11). In the Second World War, in May, 1942, President Roosevelt reported that nearly half a million men had been deferred because of inability to meet the Army's literacy requirement (Cook, p. 49). In the Korean conflict, about 300,000 men were rejected from the draft in the first year for "educational deficiencies" (Cook, p. 67).

In all three wars, illiterates were viewed as being unable to function in the Army. Truman, during the Korean war, stated this view: "While illiterates are at a disadvantage in civilian life, they may be a distinct hazard in a military situation" (quoted in Cook, 1977, p. 67). The government, therefore, for its own benefit--that of increasing its Army--became more involved in literacy assessment and promotion. Following the First World War,

several states set up training programs for teachers of adults; several states required districts with varying percentages of illiterates to hold night classes; by 1927, 60 percent of the states had passed some form of adult education legislation; a number of states established illiteracy commissions and literacy campaigns; and in 1924, on a national level, a National Illiteracy Conference was held and a National Illiteracy Campaign begun (Cook, pp. 26-30). During World War Two, as the Government found itself in need of more soldiers, illiterates were recruited and sent through special training. The government hired top educational experts to set up a crash literacy program designed to bring the recruits to a fourth grade reading level. This program which, according to Witty (1944), was 90 percent successful, was surely the "largest and most extensive program ever undertaken. Most assuredly, it was the best equipped" (Cook, 1977, p. 56). The state and federal governments, then, promoted literacy to a greater extent during and right after major wars. Clearly, literacy was being promoted for the benefit of the state.

These wars also caused the government, and the educators, to realize that assessments of literacy needed to be more exact. The government was apparently surprised at the number of illiterates who turned up for the draft in the First World War; census figures had not indicated that there were so many illiterates. For the benefit of the state in future wars, it was clear that better definitions and assessments of literacy were needed. The state-benefit theory must be seen as one of the influences affecting the continual changes in the definition and assessment of literacy throughout this century.

The interests of the state--in assimilating immigrants, in producing productive citizens, or in maintaining a strong military--strongly affected literacy development in the twentieth century. Conversely, literacy development affected the needs and interests of the state. Kirsch and Guthrie (1978) point out that with increased literacy, printed language became the main way of communicating and acquiring information. Printed language became the main way of assimilating immigrants, or training soldiers; thus, literacy development created the need for more literacy development. (Our soldiers needed literacy because training, commands, etc. were written; other countries managed to fight with large numbers of illiterate soldiers, because they relied on other means of communicating training and commands.) Literacy and the state-benefit theory must be viewed, then, as interacting parts of the Zeitgeist.

2.6.4 Business and Industrial Influence on Literacy

The growth of business and industry was an integral part of the Zeitgeist in the twentieth century. As such, it affected and was affected by literacy development. Olson (1975) stated, "Phillipe Aries, in his Centuries of Childhood (1962) claims that the introduction of compulsory schooling had less to do with the considerations of human welfare than with the development of an efficient work force . . . to transform a mob of ruffians and lay-abouts into efficient and dilligent workers" (pp. 114-115). Businesses and industry were interested in schools producing "finished products"--individuals who had the necessary skills to be good workers. Businesses and industry have functioned

more as "human resource users rather than human resource developers" (from a speech by Sticht, 1978). This role has influenced the establishment of vocational education, business education, and career education; it has also influenced the stress placed on functional reading and writing competencies.

Part of the tasks of school and literacy development, then, has been to provide the finished products for industry and business. Symbolically, a student who leaves school with good literacy skills is viewed as a "successful" finished product; an illiterate student is almost automatically classified as a "factory reject," and is viewed as below-standard on many dimensions other than literacy. This view is demonstrated by Levin (1975): "It has been estimated that one-third of our nation's youth leave school without obtaining sufficient reading skills to meet the demands of employment. These young people emerge into the adult world with little sense of personal worth, with social and vocational inadequacies, and with overriding feelings of hopelessness and futility . . ." (p. 81). Levin provides no support for the contention that functional illiteracy produces so many other flaws in the individual; however, her contention appears to be a common one. The argument would be that if a student did not acquire literacy, he also probably did not acquire math skills, social skills, skills needed to work for someone else, skills needed to continue learning and advancing, etc. No company would want to hire such an individual, even if the job required no reading or writing at all. This symbolic side of literacy may explain why some companies require potential employees to take reading tests, even when the tests bear little

resemblance to actual literacy demands on the job, or when there are no literacy demands on the job. Sticht (1975), reporting for the NIE Study Group on Linguistic Communication, indicated that only a minimal level of literacy is needed for most occupations, and that the entrance requirements--in terms of literacy--for most jobs were inflated. This inflation can be seen as indicative of the symbolic link between literacy and poor performance. Literacy, as several researchers (Fudge, 1975; Sticht, 1977; Newman, 1978) have pointed out, is only one of many factors that can determine success on a job; in fact, in many occupations, literacy is no determiner at all.

In addition to this symbolic influence, industry and business influenced literacy development in other ways. In the early 1900s, Frederick Taylor introduced his ideas of industrial efficiency. By subdividing each task into individual components, and by having one worker do each component over and over again, Taylorism was aimed at facilitating the greatest productivity with the least expenditure of manpower and other resources (Violas, 1978). This concept was adopted whoeheartedly by business and led to a rapid decline in craftsmen (O'Toole et. al., 1973). So rapid and complete was this method that by 1923 Henry Ford could report that over 50% of the jobs in his factory could be learned in one day, and over 85 percent could be mastered in a month.

This subdivision of labor, by requiring only one small task to be learned by a worker, meant that training and literacy needs for many occupations declined. On the other hand, human workers were viewed, by Taylor and

his followers, as one of the many parts to be plugged into an efficient machine. Therefore, while literacy and training needs for any task lessened, industry and business began to need more literate and more broadly trained workers so that they could plug these workers into any slot that was open. Additionally, literacy was seen as one more way to make the worker more efficient--and greater efficiency was the aim. It is interesting to note in this regard that Cook (1977) reports on literacy projects undertaken by industries at various times in this century. The results that she reports are often in terms of whether or not the workers became more efficient as a result of literacy training. In reporting the results of the 1913 New York City Workers' Class Experiment, for example, she states: " . . . work efficiency improved 20-70 percent, and the hourly wage increased from 19.5¢ to 22.2¢ per hour" (Cook, 1977, p. 17). Cook (reporting on a major 1958 study) also states that, in general, literacy training "was viewed as relatively unimportant in the total scope of industry's educational programs" (p. 72).

While viewing literacy--both for practical, efficiency reasons and for symbolic reasons--as important, industries and business did not directly promote literacy to a great extent in this century. But they did influence the direction of schools, thus indirectly influencing literacy. American education adopted many of the components of the efficient, factory approach (Tyack, 1974; Violas, 1978). Poorer students were tracked into vocational education so that they could be "finished products" for industry. As early as 1909, John Cook reported to the NEA that "the leading function of school,

so far as our industrial population is concerned, is to aid them in acquiring the greatest efficiency possible in earning their living . . ." (Cook, 1909, p. 396). Cook defined the industrial population as the working class; he, along with many other educators (see Violas, 1978, p. 135) advocated tracking working class children into vocational education. Violas suggests that this tracking was not only designed to produce good workers for industry, but was also an efficiency measure on the part of schools. ". . . school officials, who were not particularly concerned with immigrant and working-class children, used the industrial training programs as a way of getting them out of school as quickly and with as little expense as possible" (Violas, 1978, p. 192).

Efficiency measures also led to increasing worker alination (O'Toole et. al., 1973). O'Toole et. al., in a Special Task Force Report to the Secretary of HEW, found that alienation has grown to the point where "nearly 40 percent of the over-forty workers (interviewed) have thought seriously about entering a different occupation, and would enter an educational program to acquire new skills" in order to change jobs if there were financial reimbursement for the program (p. 122). Dissatisfactions with jobs, the report contends, are due in large part to the efficiency model of industry in which workers do not feel "masters of their immediate environments and . . . that their work and they themselves are important--the twin ingredients of self-esteem" (p. 13). The HEW report does not limit its findings of alienation to industrial settings, Instead, the report indicates the same trend in all

areas of work. "With the shift from manufacturing to services--employment has gone from 50-50 in 1950 to 62-38 in favor of services in 1970--the tyranny of the machine is perhaps being replaced by the tyranny of the bureaucracy" (p. 22). This alienation often leads to changes in jobs or to changes in a total career. Literacy skills are clearly advantageous for a worker who tries to change professions; conversely, illiteracy can be one factor that forces an individual to stay in an alienating situation. Thus, the efficiency model of industry and services, by producing alienation and the resultant desire for job change, seems to have produced a greater need for literacy.

Fudge (1974) speculates that there is a positive relationship between an individual's level of literacy and his economic status. He aruges, however, that such a relationship may exist not merely because higher paying jobs require more literacy. "The distribution of literacy skills would seem to correlate with the distribution of economic rewards, and it might be argued that the reverse relationship is true. In an industrial society which is labor intensive in the lower-status and lower-reward areas, it can be seen that if literacy skills grant the individual vocational mobility then our present economic organization has a vested interest in controlling the distribution of literacy--and keeping most individuals within the range of skills that place ceilings on their economic mobility" (p. 30). Fudge goes on to speculate that schools have traditionally had the role of sorting through the population and providing high levels of literacy to those "with merit" while keeping a large segment of the population semi-literate (or at least at lower levels). This

large segment then enters the work force as the manual laborers, the machine operators, etc. This might be seen, then, as another influence that industry and business have had upon literacy promotion.

Newman (1978) points out that blacks have long been aware of this relationship between schooling and economic rewards. For this reason, most black families place a high stress on education (Newman, 1978; Ryan, 1971). With increased educational opportunities for all Americans--through legislation, compensatory education, open admissions, etc--levels of schooling have increased. If, as Fudge suggests, the distribution of literacy must be controlled in our industrial society, and if the years of schooling completed are increasing, then the relative value of schooling must automatically be lessened. A high school graduate cannot be viewed as having the same worth today as he would have 50 years ago. This is not to say that the graduate actually is of less worth, or is less literate, but rather that the relative value of a high school diploma has depreciated (Chall, 1975). Newman (1978) points out that this has led to blacks being excluded from many jobs for which they were qualified or over-qualified. Because the same jobs often went to white with less education, it is clear that this "distribution of literacy" is not following education lines at all but is instead following race and class lines. Ogbu (1978), in Minority Education and Caste shows clearly how this inequality affects black America. Black children, he shows, consistently perform below the levels of white children in school because they know that education is not the pathway to success. The problem is the caste barriers that continue to exist in America.

2.6.5 Progressive Reform, the Struggle for Equal Rights, and the Promotion of Literacy

"Progressive reform" has been applied to a number of different movements and philosophies (Tyack, 1974). Progressive reform movements (limited in this discussion to those that were concerned with the winning of equal rights and opportunities both within and outside of education) have also influenced the Zeitgeist and the definitions and promotion of literacy in the twentieth century. From 1910 to the start of the First World War, a progressive reform movement flourished. Cook attributes this to the rise in the power of women. The movement led to the Smith-Lever and Smith-Hughes acts, designed to give federal grants to help education (Cook, 1977, p. 10) as well as to bring about reforms in working conditions (O'Toole, et. al., 1973) and the treatment of orphans, the elderly, and criminals (Wallbank, et. al., 1972).

Efforts at progressive reform also took place in the 1930s and 1940s, notably in education. Burton Fowler, president of the Progressive Education Association, characterized this movement in these words: "We endorse, by common consent, the obvious hypothesis that the child, rather than what he studies, should be the center of all education effort" (1930, p. 159). Biehler (1974) indicates that report cards in the 1930s and 40s frequently devoted more space to citizenship grades than to subject grades. The stress was on making good citizens and fulfilled people (as opposed to good workers or good scholars). Biehler indicates that this movement died out as a result of "the launching of Sputnik, changes in educational philosophy, and the 'cult-of-efficiency'

emphasis" (p. 385). Clearly this movement put educators in some conflict with the interests of industry and business and the interests of the state, as mentioned previously.

The major reform movement, which affects our views and definitions of literacy and schooling today, occurred in the late 50s and the 60s. In 1954, the Brown desegregation decision began to open more educational opportunities for blacks. The Supreme Court ruled that education was so important that denying it on the basis of race denied blacks "the equal protection of the laws guaranteed by the 14th Amendment." Education, the Court contended, "is a principal instrument in awakening the child to cultural values, in preparing him for later professional training, and in helping him to adjust normally to his environment. In these days, it is doubtful that any child may reasonably be expected to succeed in life if he is denied the opportunity of an education." Blacks risked their lives to integrate all-white schools, for the value of education was esteemed (Newman, 1978). Struggles to integrate other aspects of American life, to overcome obstacles to voting (such as literacy tests), to achieve racial equality, and to ensure equal opportunities in all facets of life were waged. This civil rights struggle was also a precursor to other struggles--over women's rights, over rights for the elderly and handicapped, and over rights for other minorities.

This reform and civil rights movement affected literacy in a number of ways. The content of literacy materials was changed to reflect the changes in society (more minorities were included in books; sexist labels were modified;

Black English was incorporated into materials in some instances; bilingual materials were made available). Compensatory education was made more available in an attempt to rectify differences in achievement. Literacy requirements for voting were ruled illegal. Literacy requirements for college entrance were lessened in many cases in order to open opportunities for more students. This struggle for equal rights in many ways became a struggle to provide a more democratic distribution of education, and thus, literacy. Again, this movement came in conflict with some of the interests of business, government and industry. This conflict--between a more democratic form of education and a more meritocratic form--will be examined in the next section. This conflict may be one of the roots of our current stress on functional literacy and minimal competency.

The progressive reform and civil rights movements, then, can be seen as affecting the materials used for literacy promotion, the uses of literacy measures, and, most importantly, the views about who, in our society, should be allowed to achieve literacy.

2.6.6 Meritocracy Versus Democracy and the Promotion of Literacy

Another major influence on the promotion of literacy in this century has been the continuing debate--a debate that reached a climax in the 1960s and 70s--over whether American education should be a meritocracy (providing equal opportunities only) or a democracy (in the sense of ensuring roughly equal results from education). Although American education under either

system is called "democratic," the aims and objectives of the systems differ greatly. In a meritocracy, all children are provided with equal opportunities and the most able (the ones with the most natural merit) are able to use these opportunities the best, are recognized as being more able, complete more years of schooling, and eventually become the leaders of industry and government (Biehler, 1974). In a democracy, additional instruction, special education, or compensatory programs may be established above and beyond the equal opportunities afforded by schools. These special programs are aimed at children who, because of other non-school influences, are not receiving an equal benefit from the schools' programs. The stress in the democracy system is on attaining roughly equal results.

The attack on the meritocratic belief that opportunities in American education were really equal emerged during the Enlightenment as a reform measure when "bright sons of lower-bourgeois families demanded that government and professional positions be opened to persons on the basis of natural ability, rather than of parental influence or hereditary right" (Sennett & Cobb, 1972, p. 61).

It can be seen that a number of influences cited earlier would tend to favor such a sorting-out approach in education. Industry and business, with their stress on human resource use, would clearly have an easier task if individuals entering the work market were already sorted by ability. The interests of the state in ensuring that top government and business leaders were very able individuals, might also influence schools to support individual differences among students, would clearly be more "efficient" if these

students could somehow be grouped with others who are similar (usually in ability). These influences resulted in the schools adopting a meritocracy approach to education (Sennett & Cobb, 1972; Tyack, 1974; Biehler, 1974). This meritocracy approach has been the predominant one in education throughout this century. The Progressive Educationists in the 1930s and 40s made some efforts to move away from this approach (Biehler, 1974); it was not until the 1960s, however, that education adopted a different approach.

The idea of meritocracy, it must be noted, was not one of denying equal opportunities. It was felt, under a meritocratic system, that equal opportunities should be provided (at least at first) and that individuals would sort themselves out. Given completely equal opportunities, the most able students would succeed the most, and the least able would gain little and drop out (to join the work force as manual laborers). The influence of Social Darwinism is obvious; however, in theory at least, a meritocratic educational system did not prejudge who would succeed; the system provided equal opportunities to all and let a 'natural' sorting process occur.

In theory, then, the meritocracy system was democratic--it provided equal opportunities. In the 1960s, however, the system came under attack for two major reasons: first, the contention that opportunities were equal for all citizens was challenged and, second, the contention that providing equal opportunities was enough to ensure equally beneficial results was discredited. This attack on the meritocracy system emerged at the same time as the major struggles over civil rights; it was clear that the existing

meritocracy system fell far short of meeting the needs of minority citizens. Additionally, this attack on meritocracy came at the same time that much of the nation was questioning all its institutions and thus the attack covered many aspects of education besides meritocracy.

The underlying belief of the meritocratic system that educational opportunities really were equal has been attacked since the inception of public education. Clearly, by denying education to blacks for many years, and by limiting the schooling of women, American education suffered from a systematic bias in providing equal opportunities (Fay, 1978). Schools provided for immigrants and minorities were often poorly staffed and equipped and were often more concerned with creating disciplined citizens than with providing education (Violas, 1978). Supreme Court decisions, beginning with the Brown decision in 1954 (discussed in the last section), supported what many educators and citizens had been saying: separate and equal was neither true nor sufficient. In addition, meritocracy was challenged for not even providing equal opportunities within the same school.

Various studies in the 1940s and 1950s indicated that equal opportunities were not being given to all students. In 1949, for example, Hollingshead, in Elmtowns Youth found that the process of differentiation in a small Indiana comprehensive high school reflected the social classes within the community. Five strata of society were identified, and Hollingshead reported that the top strata dominated the college preparatory program, the middle strata dominated the general education program, and the lower strata were ordinarily

represented in the "commercial" track. This tracking system is still strongly in effect, and it ensures that unequal opportunities are provided--often on the basis of social class and not necessarily merit (Biehler, 1974).

This attack on the belief that equal opportunities were enough to ensure equal results can be seen in a number of books and studies that were published in the 1960s. John Gardner, in Excellence (1964) wrote: "The schools are the golden avenue of opportunity for able youngsters but at the same time, they are the arena in which less able youngsters learn limitations." Writing in Change, in 1972, Jerome Karabel asserted: ". . . education is inextricably linked to the transmission of inequality from one generation to the next . . . the entire process helps ensure that the already affluent receive a (higher) education which enables them to retain their privilege and position." The Coleman Report (Equality of Educational Opportunity, 1966) as well as other studies (Thorndike, 1973; Morris, 1959) found that the family background of the child --the socioeconomic levels of parents, their education, their profession, their income--had a greater influence on school achievement than did the school itself. Thorndike (1973) summarized: ". . . the clear result is that good home and environmental backgrounds provide strong differentiation . . . between students."

Such findings left serious doubts whether providing equal opportunities was sufficient to ensure equal results. Bloom (1968) suggested that studies show that a student in one set of communities may spend one-and-a-half to two years to attain what a student in another set of communities learns in one year. Thus,

providing real equal opportunities may take twice as much time and money. Bloom, and many other educators, suggested that providing equal opportunities in a meritocratic sense was not sufficient for education to be democratic; instead, additional and special opportunities must be extended to some segments of society in order to offset unequal influences occurring beyond the school doors.

This idea was adopted in many quarters in the 1960s and early 1970s (and, of course, continues in many places today). It led to massive compensatory programs--from Head Start to reading academies; it led to the acceptance of Black English, and efforts at bilingual education; it led to increased educational opportunities for all citizens as colleges and universities adopted special admissions policies; it led to education and job quotas; it helped influence decisions on busing and on the introduction of a vast variety of courses at the high school and college level designed to motivate, and appeal to, diverse students. The movement, then, was away from an elitist, meritocratic stress on academic excellence for a few and towards a more just (in terms of results) and democratic stress for all.

This movement may have entailed certain trade-offs in education. Most notably, it may have resulted in a trade-off between better basic education for everyone and less academic excellence for a few. The academically gifted may not be receiving the same quality of education, as Rafferty (1975) and other suggest. This trade-off could explain why SAT scores are declining (Wirtz, 1977) while basic competencies in reading are increasing (Fisher, 1978; Farr, Fay & Negley, 1978).

In addition to trade-offs in education, such an approach also undermines many of the interests that business, industry, government, and portions of the population have in education. If everyone graduates from high school, for example, businesses and industry are no longer provided with pre-sorted workers; or if everyone receives sufficient education (normal or compensatory) to end up roughly equal in ability, then the middle and upper classes can no longer have any assurance that their children will attain the same economic status. Symbolically, as well as in actual fact, such a system poses great threats to the status quo.

There have been strong indications in the last few years that some educators and many segments of the American population desire a return to a more meritocratic approach. As of March, 1978, 33 states had passed some form of minimum competency legislation (Pipho, 1978). Such legislation is aimed at ensuring that only those individuals who have mastered certain things (i.e., those individuals with merit) be awarded a diploma, or be passed to the next grade. It is an effort at imposing meritocracy. In a lecture, Smith (1978) reported that 26 percent of the first graders in Louisville failed the test for their grade and were retained; most of these children were black children in newly integrated schools. Smith suggested that this indicated that minimum competency testing was a return to the old, and socially unjust, meritocracy approach.

This desire for a return to meritocracy can be seen in public refusal to pass levies for schools (in Cleveland, for example). News media accounts indicate that large segments of the population feel that schools are "not doing

their jobs" by teaching frills, by not stressing the "basics," by not stressing academic excellence, and by not preparing students for the demands of life (see, for example, the November 14, 1977 issue of Time; August, 1974 issue of U.S. News and World Report; Report on Educational Research, 1978; countless local papers or news programs). Part of this charge can be seen as the desire to return to a meritocratic approach to education.

It can be argued, then, that there has been a basic struggle in American education over whether schools should provide equal opportunities, and allow those with merit (who, it has been shown, are those who come primarily from better socio-economic backgrounds) to rise to the top, or whether education should provide special programs and compensatory measures to ensure that opportunities are really equal, regardless of background. This struggle is one between a meritocratic and a truly democratic system. During the last fifteen years, the educational system has attempted to reflect more of a "democratic" approach. However, in the past few years, pressure has been exerted by some legislators, some educators, and some segments of the public to return to a more meritocratic system. In this context, tests of minimum competency and functional literacy, it can be argued, are tools designed to re-establish meritocracy. If a high school diploma no longer signifies merit the way it once did, then functional literacy tests can be used as the means to separate those "with merit" from those without merit.

In The Hidden Injuries of Class, Sennett and Cobb (1973) point out the dangers and negative ramifications of assigning people "badges of ability." To

classify someone as a "functional-illiterate" or as "minimally incompetent," as some certain measures do, is to assign such badges. Sennett and Cobb propose that such badges "produce feelings of powerlessness and inadequacy" (p. 62). Equally important, such badges set up self-fulfilling prophecies; the student who is labelled inferior with a minimally-incompetent badge will probably be treated differently by teachers, and will often be denied the same opportunities as classmates; such a student will continue to fall behind, fulfilling the prophecy that he was without much merit. The classic study in this regard (Pygmalion in the Classroom) was conducted by Rosenthal and Jacobson (1968). They showed the subtle and large influence on a child's performance when s/he is labelled with a badge of ability. This notion of the destructive ramifications of assigning students "badges of disability" may explain why Fisher (1978), after reviewing current tests on functional literacy, concluded that the one group which is unlikely to gain much from school, and the group that shows the greatest percentage of illiteracy, "consists of individuals who have repeated one or more grades" (p. 15). Clearly, in a meritocratic system, those who fail a grade are almost automatically classified as being "without merit," and a self-fulfilling prophecy is established. With increasing stress on minimal competency and functional literacy testing, the risk is run of labelling more and more people with badges of "disability" and thus setting up possibly unjust self-fulfilling prophecies. This may be the greatest danger in a return to a meritocracy.

2.6.7 Ability Testing and the Promotion of Literacy

A last major influence on the assessment and promotion of literacy in this century is the rise of ability testing. Ability testing has long been promoted as a means of beginning a sorting process of students (as discussed earlier) from the earliest grades onward. This stress can be seen from the earliest attempts at ability testing.

The successful testing of intelligence began in the 1890s with Alfred Binet. The school authorities of Paris asked Binet to develop an instrument that could be used to differentiate between students who were capable of doing normal school work and those who were not (Biehler, 1974). Binet died before his work was perfected, and his ideas were adopted and refined by Lewis Terman who subsequently published the Stanford-Binet in 1916. Thorndike was also interested in ability testing and proposed, in books like Animal Intelligence (1911) that ability could be expressed in terms of quantity and numbers. He suggested that one could measure the physical effects of intelligence and thus know 'how much' intelligence was needed to do any particular task (Sennet and Cobb, 1972, p. 59).

Terman, Thorndike, Binet, Simon, and other early researchers in this area discovered an important phenomenon, namely that the scores of people taking tests like the Stanford-Binet formed a bell-shaped curve, with most people scoring around the middle and fewer and fewer people scoring towards the extremes. Sennett and Cobb assert that this finding led researchers to conclude that there was a "'natural' allotment of ability; that people who stood out as

individuals were 'naturally' unlike the mass at the center, either because they were very stupid or very smart" (1972, p. 59). Such a finding supported the ideas of social Darwinism and of meritocratic education; it supported the idea that schools could be a sorting-out place for the interests of business, industry and the state; and it clearly reinforced the symbolic aspects of literacy--a high degree of literacy could serve as the mark of individuals at the upper extremes of 'natural intelligence.'

Since the development of these early measures of intelligence, a vast number of tests have been developed (see, for example, Buro's Mental Measurement Yearbook). Tests have been designed to assess progress in a subject, to measure aptitude, to predict future success, or to provide diagnostic information. In many cases, the tests are used to provide information for 'sorting out' students--into groups, into grades, into schools and colleges, into jobs and professions. Testing can be seen as an integral part of the meritocratic and the efficiency model of schooling. It is interesting to note in this regard that less stress was put on test results in the 1960s (when schools were striving for more democracy), and that more emphasis is being put on test scores today (as schools are returning to a meritocracy) (see Biehler, 1974).

While various types of ability testing can provide valuable information for the teaching-learning process (Farr, 1978), they also lend themselves to abuses. Sennett and Cobb (1974, p. 61, note that "a person who is being measured by a test can be classified by it" and that any classification can lead to self-fulfilling prophecies, and to feelings of unworthiness, futility and despair. Sennett and

Cobb view these tests as the means by which institutions and the society can deal with individuals; because it would be impossible to actually deal with all the people as individuals, the institutions rely upon numbers representing quantities of "ability." While this enables institutions to function more efficiently, it also erases feelings of individuality and may prevent people from doing what they really want to do and are really capable of doing (p. 65).

Farr (1978) mentions other abuses of tests. He states: "If they are used properly, tests can be useful information-gathering tools; if they are misused, they can misdirect the entire educational process. Minimum competency testing in reading achievement can be misused in several ways" (p. 2). Farr contends that the main abuse of tests is that they are used for purposes for which they were not intended (such as the SAT being used as a measure of achievement rather than a measure for prediction). Functional literacy and minimum competency tests are basically designed to measure how well people can perform certain representative tasks. As was discussed earlier, functional literacy is really a variable construct and depends upon the individual's ability and the nature of the literacy tasks s/he actually encounters in life (and must complete in order to be functional). Such tests only measure abilities on certain tasks; to draw conclusions about the extent of functional illiteracy in this country, or to draw conclusions about the state of our schools, from such tests is to misuse the results.

A second misuse of testing that Farr cites stems from the assumption that "they measure everything that is important in education" (p. 2). Calls for

increased minimum competency and increased levels of functional literacy are really calls for better scores on tests that supposedly measure these constructs. An assumption underlying the stress on such tests is that they actually measure what is important; that is, if a person passes a minimum competency test, s/he has gained the basic important skills and knowledge from school. Testing, it is assumed, can somehow measure the successful attainment of all the objectives of education. Farr states: "Obviously, there are important educational objectives for which we have no effective measures and for which student achievement would be an inadequate measure."

A final abuse of testing stems from the narrow definition of abilities that are used. Ability is measured on only a few dimensions in any test (for example, the abilities to decode words, or reason logically, or find a main idea, or complete a certain type of form). These particular dimensions become the marks of overall ability; yet they are not necessarily correlated to other important skills and abilities. For example, if a person "fails" a functional literacy test (e.g. fails to meet some criterion score on a set of 'representative' tasks), this in no way sould lead to the conclusion that s/he cannot function due to poor literacy skills. The person may possess any number of other developed abilities that enables him to cope quite well. Newman (1976) presents a case study of a florist, for example, who, although unable to read, managed his business quite well. He had devised an elaborate system of pictures, doodles, and numbers that enabled him to take orders, remember addresses and fill and deliver all his orders. Such examples of people using other

abilities to function adequately in situations are quite common. Functional literacy tests in no way can measure these other abilities, and thus it is a misuse of the tests to assume that a "functional illiterate" (according to some assessment) is somehow malfunctional. Yet that is precisely the assumption that the term "functional" literacy leads us to; somehow, such a test measures ability to function.

Ability testing, then, arose in response to the needs of a meritocratic educational system, the needs of the society to make schools accountable, and the needs of other interests to have the schools provide a sorting-out function. A number of misuses of tests have occurred although tests can clearly serve useful functions. The abuses that bear most heavily on measures of functional literacy are the use of tests for purposes other than the ones they were specifically designed for, the assumption that the tests measure what is important, and the fact that any test fails to measure more than a few dimensions of ability, but the results are applied more broadly. The next chapter will detail some of the results and implications of such misuses in current functional literacy assessments.

2.6.8 Literacy in the Twentieth Century: Conclusion

A number of social, political, educational, business and industrial influences affected literacy development, definitions and assessments in the twentieth century. These influences, it has been shown, were strongly entwined, and formed the Zeitgeist at various points in the century. This section examined the following influences in an attempt to explain the background of the current

stress on measuring and promoting functional literacy and minimum competency:

1. Differing philosophies about the goals of education have produced differing reasons for promoting and assessing literacy. The current stress on functional literacy and minimum competency was shown to be partly a result of the sociologist and essentialist (Tyler, 1949) views of education. The sociologist stresses the skills needed to function in society; the essentialist stresses literacy as a means to have access to past cultural heritage.
2. The interests of the state exerted a strong influence on literacy development and assessment. This influence was shown in the establishment of compulsory education and the promoting of adult literacy as part of the efforts to assimilate immigrants, produce productive citizens, or maintain a strong military. The government's concern over literacy promotion and assessment arose primarily during times of great immigration or military conflicts. Literacy was also advocated, by some, as a means of barring "undesirables" from entry into the country or from the privilege of voting.
3. Business and industrial interests also influenced literacy. The need to have a "finished product" emerge from school, ready to take his place in the world of work, helped establish and maintain the system of meritocracy. The efficiency model of industry was adopted in large part by education, with resultant tracking systems and separate and unequal educational opportunities. The growth of industrialism also

produced a need for less literacy skill for any particular task, but possibly more literacy skill if a worker was to handle several tasks, or to change jobs. Functional literacy and minimum competency concerns can be seen as parts of an efficient, meritocratic, sorting-out system, based on industrial models and influences.

4. Progressive reform and civil rights movements also affected literacy. These movements were shown to be closely involved with the increased democratization of the schools. The movements affected the content of reading materials, the increased use of compensatory and other special education programs, and the views about who in the society was entitled to be literate (namely, anyone).

5. The debate over the meritocratic versus democratic role of schools, closely tied to the influences listed above, also affected literacy development and assessment. This debate--between whether schools should simply provide roughly equal opportunities and permit a "natural" sorting process to occur or whether schools should provide compensatory programs to ensure more equal results--was shown to have been at its height in the 1960s and 1970s; in the 1960s and early 70s, increased efforts were put forth to create more of a democratic system; increasingly, however, the swing seems to be back towards a meritocracy. Functional literacy and minimum competency testing can be seen as signs of this movement, and as tools to be used in re-enforcing a meritocratic approach.

6. The rise of ability testing, by providing a means to assess functional literacy, and minimum competency, also influenced literacy assessment and development. Ability tests were shown to be, to some extent, a tool of a meritocratic system; they enable a sorting-out process to take place. Misuses of ability tests are common and include: overgeneralizing results; using the tests for reasons other than the ones for which they were designed, and assuming that the tests capture all that is important to measure. These misuses can be seen in assessments and discussions of functional literacy, as the next chapter outlines.

Many other influences also affected literacy development and assessment in this century; the ones listed above, however, seem to have had the greatest impact on our current stress on functional literacy assessment and development.

2.7 Conclusion

The development of literacy definitions, assessments, and levels has been traced in this chapter. Highlights of various political, social, educational and industrial influences on literacy have been presented in an attempt to establish three important points about literacy (and functional literacy):

*Literacy promotion, assessments and definitions have been the product of, and to an extent the producer of, the Zeitgeist at various points in history. Any discussion of literacy or functional literacy must be viewed in light of the particular Zeitgeist.

*Literacy is not a fixed constant. It is an artifact of man, and its definition changes according to the Zeitgeist and according to the particular ideals set up by a society. Additionally, literacy has a variable nature within any historical period; it varies according to the individual's abilities and the literacy tasks encountered. Any discussion of literacy or functional literacy must take into account the fundamental variable nature of this construct.

*Literacy has a symbolic, as well as a practical, meaning in a society. This symbolic aspect has also been influenced by, and influences, the Zeitgeist. Literacy has come to be viewed, symbolically, as a mark of ability and civilization (Olson, 1975). This symbolic aspect plays as much a role in literacy development and assessment as does the practical aspects of literacy.

III ASSESSING FUNCTIONAL LITERACY: CURRENT STATUS, CURRENT PROBLEMS

The previous chapter traced certain aspects of the historical development of the concept of literacy. Literacy was shown to have had, historically, a variable definition determined by arbitrary standards. This definition was both a result of the particular Zeitgeist, and a partial cause of the Zeitgeist. The Zeitgeist, by molding views towards education and towards the potentials and roles of human beings in society, also molded the definitions, assessment techniques, and promotion of literacy. Literacy was shown to be an arbitrary construct, continually tied to some ideal. Additionally, literacy was shown to have acquired a strong symbolic meaning; literacy came to be viewed as important for reasons above and beyond its functional uses. The promotion of literacy for its own sake grew out of this symbolic aspect of the concept of literacy.

For a number of reasons outlined in the previous chapter--reasons that are symbolic as well as practical--our nation is dedicated to the promotion of literacy. Full literacy, as envisioned by Commissioner Allen (1968), and as advocated by Carroll and Chall (1975) and more recently by Senator McGovern (1978), has in many ways become a national goal. Being a national goal, the question then arises: Are we making progress? Are we, as a nation, more literate?

The answer to such a question seems to depend, to a large extent, upon the definition of literacy that is used. It also depends upon who is comparing

literacy levels from various times, and why they are comparing them. Cook (1977) shows how using different definitions of literacy yield greatly varying numbers of illiterates (or "functional illiterates"). Fisher (1978) examined shortcomings in many of the functional literacy tests and proposed that one possible reason for the differences in results may have been the motivations of the testers which caused them to construct harder or easier tests (based, for the most part on "representative reading tasks") depending upon what they hoped to show. In a lecture, Farr, in 1977, indicated that an offer to appear on a nationwide news show was withdrawn when the program planners discovered that Farr's research showed that reading was improving; the news program wanted to publicize a decline in literacy. Part of the reason for differing results, then, can possibly be explained by what the researchers--and perhaps the public--wanted to find. Goodman, in a 1978 NCTE speech, characterized much of the testing going on in the nation as attempts to extort money from the government. With educational funds under closer scrutiny, it is clearly to the advantage of the educational establishment to create a crisis situation, in this case, the decline of literacy, in order to receive more funds to 'solve' the problem. It must be recognized that part of the concern over functional literacy and supposedly declining reading scores, as well as the resultant assessments of such declines, may come from a survival instinct on the part of professional educators. This is not to imply that current assessments of functional literacy are dishonest in any way; in fact, these tests have been designed and administered with as much objectivity as possible. However, because items were representative--and hence

somewhat subjective--and because criteria for 'passing' were generally somewhat arbitrary, the tests could easily be used to produce vastly differing numbers of illiterates. Muklebust (1969), writing about learning disabilities, said "Tell me how many you want, and I'll write you a definition to find that many." The same could be said for functional illiterates.

Rather than reflecting biases on the part of researchers, however, it is more likely that results of functional literacy assessments vary greatly because the assessments have been confounded by several philosophical and theoretical problems.

Philosophical and Theoretical Aspects of the Problem

A number of factors have confounded the assessment and promotion of functional literacy; these factors have caused past assessments to vary widely in definitions, assessment measures used, and results. A study that would shed more light on the meaning and extent of functional literacy would need to carefully address these factors that have posed problems in past research:

1. Literacy has traditionally been approached as a fixed construct--one that was unchanging and that could be measured by a single instrument (Bormuth, 1975). Instead, literacy is an invented construct and is often influenced significantly by the social, political, religious, and economic climates of particular periods of history (Fudge, 1974; Olson, 1975; Diehl, 1979). Additionally, even within the same period of history, literacy has a variable nature. Literacy is not a single,

optimum level of attainment, but it rather varies depending upon the skills of any one individual and the literacy demands that that individual faces. It is "a continuous process of applying specified skills to specified tasks" (Kirsch and Guthrie, 1978, p. 492).

2. Literacy measures have primarily been designed to yield binary classifications of people--either "literate" or "sub-literate" (Bormuth, 1975). Since literacy demands vary greatly, and since there are few, if any, individuals who could adequately meet all possible literacy demands, then most people would be "sub-literate" in some situations. Binary classifications of literacy must, therefore, automatically entail the use of arbitrary criteria. It is necessary to move beyond binary classifications and to examine functional literacy as a wide continuum.

3. Literacy has often carried a symbolic value, above the utilitarian value, in our society (Fudge, 1974; Olson, 1975). Literacy is often viewed as the mark of a civilized person in a civilized society; conversely, illiteracy is often viewed as being automatically linked with backwardness, hunger, deprivation, crime, etc. (For example, a recent Newsweek article was headlined "The Blight of Illiteracy." In this article, as well as in other articles and in speeches such as McGovern's in 1978, illiteracy is presented as an automatic correlate to--or even a cause of--many of society's problems.) In the past, this symbolic value has caused literacy to be used as a tool in barring

immigration of certain peoples (Cook, 1978) and as a tool for denying the vote to black citizens. It now may cause educators and legislators to misjudge the actual levels of literacy needed in the society; it may also cause employers to misjudge and perhaps arbitrarily set the literacy entry requirements for many occupations. In order to avoid some of the influence of the symbolic values of literacy, it is necessary to examine actual literacy demands encountered in real life situations.

4. Partly due to the symbolic value of literacy, discussions of, and even assessments of functional literacy often equate this ability with overall competency (Kirsch and Guthrie, 1978; Fisher, 1978). It is too often assumed that an inability to read and write well indicates an overall lack of ability; an illiterate is often seen as automatically incompetent. Obviously, a worker could be functionally illiterate (i.e. he cannot read the materials supposedly necessary to complete a task) and yet be competent (i.e. he accomplished the task anyway because of common sense, previous experience, etc.) Scribner and Cole (1973) and Olson (1975) indicate that attitudinal and behavioral characteristics--other than simple literacy ability--have a much greater impact on competency. In one of the few studies to address this question, Sticht (1975) found a low correlation (.30 to .40) between reading ability and on-the-job performance tests. In order to determine the real importance of 'functional literacy' it appears to be important to take into account important attitudinal and behavioral characteristics.

A number of important philosophical and theoretical issues are involved, then, in the assessment of functional literacy. One approach to addressing these issues is to examine how individuals interact with, and how successfully they deal with, literacy demands that they actually encounter. By examining this interaction in one sphere--in a job-setting--it is possible to assess components of literacy competency without reference to the symbolic aspects of literacy, or the need to establish a binary classification system. Additionally, such a study is able to examine literacy at levels other than the minimum, to represent literacy as continuously distributed, and to examine the impact of attitudinal and behavioral influences on literacy ability in a given situation.

Historical Development of the Problem

The term 'functional literacy' was first used in World War Two to describe recruits whose reading and writing skills were below a level deemed necessary to read and follow military orders (Cook, 1978). Prior to this time, only basic (not functional) literacy had been assessed. The assessments of basic and functional literacy have followed several different lines and have become more complex with time. These assessments varied mainly in the definition used for 'literacy,' definitions which ranged from the ability to read and write a simple sentence to the ability to fill out and understand more complex forms. The major assessments, their working definitions of literacy, and their results were as follows:

1. The Census Bureau--which provides the only consistent, comparable

data across time--has traditionally defined literacy as the ability to read and write a simple message in any language (U. S. Bureau of the Census, 1971). If an individual has completed sixth grade, s/he is automatically counted as 'literate'; if s/he has not completed six years of schooling, s/he is asked directly: "Can you read and write a simple message in any language?" This self-report procedure, clearly open to problems with accuracy of information, nevertheless has remained consistent for over a century and thus provides us with comparable data. In 1870, the Census Bureau reported an illiteracy rate of 20% (79% for blacks); in 1969, the Bureau reported an illiteracy rate of only 1% (3% for blacks). By examining demographic variables--and especially the age distributions of reported elliterates, Fisher (1978) estimated that within fifty years only .1% of the population will be classified as illiterate, using the combination grade-completed and self-report procedures of the Census Bureau.

2. As mentioned above, the Census Bureau uses grade completed as one of the criteria for determining if a person is literate. UNESCO and the U. S. Army also suggest grade-completed as the criteria for literacy; the completion of fourth to sixth grade is viewed as a sufficient proof of literacy (Fisher, 1978; Harman, 1970; Corder, 1971). Using this criterion of five years of schooling, in 1970 95.6% of the population was literate; in 1940, only 86.3% was literate. An examination of demographic variables reveals that, using the definition of

grade-completed, illiteracy was significantly more common among older and minority citizens. Fisher (1978) by projecting the status of the 16 to 24 year old group, estimated that, if present trends continue, we can expect that about 2 percent of the population will be classified as illiterate in the future, using eighth-grade completion as the criteria. Fisher indicates that this will represent 1.9 percent of the white population, 3.3 percent of the black population and 12 percent of the Hispanic population. If a fifth-grade completion criterion is used, one percent of the population can be projected to be illiterate (Fisher, 1978, p. 34).

3. It has been repeatedly suggested that a grade-equivalency reading ability should be used as the criterion for literacy. Carroll and Chall (1975), in the landmark report from the National Academy of Education, for example, advocated the attainment of twelfth-grade literacy by all citizens. They wrote: ". . . our national educational policy is that every child is expected to complete at least the twelfth grade; we ought to expect every child to attain twelfth grade literacy" (p. 8). Sticht (1971) related grade equivalencies to a definition of functional literacy in the context of military occupations. He reported that reading grade levels of 7, 8 and 9 were associated with successful job performance of cooks, repairmen, and supply clerks, respectively. The Brief Test of Literacy, administered by the National Health Survey (Vogt, 1970), used a standard reading test and defined literacy as

the attainment of a fourth grade equivalency score. Using this definition, 95.2% of the non-institutionalized youth, aged 12 to 17, are literate.

4. The most recent assessments of literacy--which will be discussed in the next section--have defined functional literacy, broadly, as the ability to successfully perform reading tasks deemed necessary for survival in the society (or in a job). These assessments (i.e. The Mini-Assessment of Functional Literacy; the Survival Literacy Study; the Adult Functional Reading Study; the Adult Performance Level Project; and Project REALISTIC) have produced widely varying results, indicating that anywhere from 2 to 20 percent of the population is "functionally illiterate." While the basic definition used in these assessments seems quite reasonable, fundamental problems arose in applying such a definition to a nation-wide assessment. Except for Project REALISTIC, all the assessments developed tests containing representative reading and/or writing activities, and administered the tests to a random selection of the population. These assessments differed on two basic definitional questions, namely: Which reading tasks are actually necessary for 'survival?' (Should the long 1040 tax form be included on the test; should leases, or purchasing agreements, or traffic signs?) At what point, and how, does a person show that he is able to handle the reading tasks well enough to 'survive'? It clearly is not enough to define functional literacy as sufficient

reading skills to 'survive'; the tasks chosen, and the criteria for passing chosen, are an integral part of the definition.

The history of the assessment--and, by extention, the promotion--of literacy has been one of changing definitions of what literacy is. These changing definitions have yielded varying assessments of the problem, ranging from 1 percent of the population illiterate (using the Census Bureau criteria) to 20 percent illiterate (using the APL assessment procedure).

Present Status of the Problem

There are a number of aspects of the present status of research into functional literacy. First, there has been much recent research attempting to assess the extent of functional illiteracy in the U.S. Second, there have been status reports on the state of general reading achievement in the U.S. Third, there has been some research into the changing demands of literacy in the society; any change in literacy demands would obviously affect the levels of functional literacy.

Perhaps the most-quoted study that assessed the level of functional literacy is the Adult Performance Level Project (APL) conducted by Northcutt and others (1975). APL used a number of methods, including interviews, reviews of research, and expert opinion in arriving at a series of tasks that could be called necessary for functional competence. Test items were constructed using these tasks; only tasks that were positively correlated with three measures of success --education, job status, and income--were included in the final test instruments.

The criteria for passing the tasks were based on whether scores fell into the range of scores of "Proficient adults" (APL3), "Functional adults" (APL2) or "Adults who function with difficulty" (APL1). Since these three groups were also based on income, education, and job status, the results are questionable; the results can be viewed as simply supporting an untested hypothesis--that less successful people are less literate (Fisher, 1978). Although this and other factors confounded the results (Griffith and Cervero, 1977), APL provided some sense of the extent of the functional illiteracy problem. APL found that about 20 percent of the population fell into APL1 and thus could be classified as functionally illiterate. APL reported, among other things, that "44% (52 million Americans) could not match personal qualifications to job requirements listed in help wanted advertisements; 26 to 28 million were not able to address an envelope well enough to insure that it would not encounter difficulties in the postal system . . ." (Northcutt, 1975).

The Survival Literacy Study (Louis Harris and Associates,[1] 1970), the first major assessment of functional literacy, also used representative tasks. SLS employed five application forms as the representative tasks, and set percentages of correct responses as the criterion for passing. This assessment found "that some 13 percent (18.5 million) of American adults failed to fill out the application forms for basic needs such as social security with fewer than 10% errors while 3% (4.3 million) of American adults failed the items."

The Adult Functional Reading Study (Murphy, 1975) was preceded by a survey to determine what Americans read (Sharon, 1973). This survey was used

in determining tasks that could be considered "representative." Additionally, input was sought from representatives of industry, education, journalism, and consumer groups. The tasks that were chosen were administered to about 8,000 adults. Because of the difficulty in setting meaningful passing criteria, the results were reported on an item-by-item basis. Murphy concluded that "simple reading tasks based on day-to-day reading activities can be answered correctly by most adults. However, there are significant differences between groups of adults." He also concluded that "reading materials at work is a critical part of the domain (of reading activities). A relatively large number of people perform such tasks for a relatively long time and consider them highly important" (Murphy, 1975).

The Mini-Assessment of Functional Literacy (MAFL, Gadway and Wilson, 1974), conducted by the National Assessment of Educational Progress, used test items that had previously been used on the 1971 assessment. Specifically, items were chosen that represented typical reading formats and called for typical reading behaviors. Comparisons were made between the scores on the 1971 and 1974 samples, using three methods of scoring. Although the items chosen for the MAFL were not as representative as those used in other studies, the MAFL had the advantage of being able to make a comparison across time. Results indicated that all groups gained in functional literacy between 1971 and 1974, with a national gain of 2 percentage points.

Project REALISTIC (Sticht et al, 1971; 1972; 1975; 1977; 1978) examined functional literacy in the context of several military jobs felt to have identical

civilian counterparts. Using measures of readability, reading proficiency, and job proficiency, Sticht attempted to determine what reading level was needed to perform adequately on particular jobs--namely, cooks, vehicle repairmen, supply clerks, and armor crewmen. Reading, listening and arithmetic skills were compared to performance on job-knowledge tests, job-sample tests, and supervisor ratings. Additionally, methods of categorizing literacy demands, and assessing the difficulty of job-related reading materials (using a readability formula--FORCAST) were developed for this project. These studies indicated that the difficulty level of job-materials and the level of the reader's skill combine to influence the extent of usage of reading materials. Sticht et al. also found that those individuals who did not use job reading materials did not necessarily compensate for the loss of information by seeking it in other ways (such as asking a fellow worker). Despite this fact, Sticht et. al. reported a low correlation (.30 to .40) between reading ability and on-the-job performance as measured by job-sample tests and supervisor ratings. The implication is that other important variables have more influence on job performance than ability to read job materials. Sticht et. al. also reported that the majority of reading tasks encountered were an integral part of the job task; reading materials on the job, unlike in schools, were used primarily to do something else, and not to learn new information. While difficulties arose using the various measures, the idea of examining the actual reading materials of individuals, and their abilities to handle the material, is a most promising one for meaningful assessments of functional literacy. This proposed study, as will be discussed later, utilizes

several of the ideas and measures developed by Sticht et. al.

While the assessments of functional literacy mentioned above have caused concern about the seemingly large numbers of functional illiterates in our society, assessments of basic reading competencies have tended to show some improvement across time. Tuinman, Rowls and Farr (1976), in an overview of "then and now" studies note a general improvement in literacy since the turn of the century. The Mini-Assessment of Functional Literacy (Gadway and Wilson, 1974), reported a gain of two percentage points between 1971 and 1974 on its test of functional literacy. Farr, Fay and Negley (Indiana Then and Now, 1978) examined over 50,000 high school students in Indiana using the same reading test used 30 years previously. Even though the 10th graders tested in the 1970s were younger, and included 10 percent of the population that would have dropped out of school three decades earlier, the 70's scores showed no declines and some gains, indicating major improvement in basic reading abilities. Such research seriously challenges recent charges that the schools are not providing as good an education as previously. However, such research also appears to contradict the findings of functional literacy studies cited earlier. This seeming contradiction may be caused by the possibility that functional literacy assessments have tended to be biased in the favor of overestimation, as Fisher (1978) argues. It is also possible that basic reading levels are improving while "functional reading" levels are not; this would be the result if American education was stressing basic skills for more students to the detriment of providing higher level skills for the more gifted. (There are indications that education has indeed shifted

from a 'meritocratic' to a more 'democratic' system, to the detriment of the more gifted students; see, for example, Violas, 1978; Bieh'er, 1974; Tyack, 1974; Diehl, 1978).

On the other hand, this discrepancy between the findings of functional literacy studies and basic reading achievement studies may be accounted for if functional reading demands were increasing in the society. In other words, if a higher level of reading proficiency was now required to handle every-day reading tasks, basic levels of literacy could increase while functional levels would not. A number of researchers have reached the conclusion that literacy demands are indeed increasing (Levin, 1975; HEW Task Force Report, O'Toole et. al., 1973; Cook, 1977). Other researchers, however, disagree. For example, the Study Group on Linguistic Communications, reporting to the National Institute of Education, pointed out the possibility "that occupational opportunities are far more available than previously imagined . . . and if employers and unions realized (the possibility) that only a basic level of literacy is required to perform adequately in most occupations, the entrance requirements of many jobs might be reduced (Sticht et. al., 1975, p. 21). Newman (1978), writing in Change magazine, issued a scathing indictment of the imposition of inflated schooling and literacy requirements of jobs. She states: " . . . whatever the job sphere, technological advances have generally resulted in the need for less skill rather than more" (p. 40). The combination of over-inflated schooling and literacy requirements for many jobs with "over-credentialism" for other jobs, Newman asserted, has successfully kept many black workers unemployed or at less

financially rewarding jobs.

This debate over whether literacy demands are increasing or decreasing in our society stems in part from the fact that no research actually examining the demands over time has been done. Base-line data about the current levels of literacy demands are needed in order to compare future data and determine the status of such demands. The need to specify exact literacy demands made on particular individuals, rather than the use of representative tasks or expert guesses about the levels of literacy needed, is vital in determining, assessing and promoting functional literacy.

The current status of research in functional can be summed up in several points:

1. Assessments of functional literacy, because they relied on representative tasks and somewhat arbitrary passing criteria have yielded vastly differing results. These assessments have reported that anywhere from 2 to 20 percent of the population is "functionally illiterate." Research, such as that conducted by Sticht, which examines actual demands and competencies of individuals rather than representative demands, may hold promise for more accurately understanding and assessing functional literacy.
2. Some research has indicated that basic reading ability has been improving in America. This research indicates that progress is being made and that reports of large numbers of functional illiterates may either be inaccurate, or may indicate that basic literacy ability is

not sufficient to meet functional reading demands.

3. Much expert opinion (but little research) has been given on whether reading demands are increasing or decreasing in the society. This issue is important in understanding functional literacy, and in meaningfully projecting the future status of functional literacy so that programs can accurately address the issue. Base-line data is needed for later comparisons if we are to determine the increase or decrease in functional literacy demands.

IV A PROPOSAL TO EXAMINE FUNCTIONAL LITERACY IN A VARIABLE CONTEXT

Needed Research

Research in functional literacy has primarily concentrated on defining representative, basic reading and writing tasks, and then assessing the ability of a sample of the population in completing these tasks. Since functional literacy has a variable nature, any assessment of functional literacy needs to address the real literacy demands placed on individuals. It needs to be approached as an interaction between individuals and their own literacy demands, and needs to regard people as functionally literate when they can read/write well enough to obtain their desired ends from the printed materials (Bormuth, 1973). For this reason, research is needed that is aimed at examining this interaction. Sticht (1972) pointed out this need when he stated: "Despite considerable rhetoric over the past 30 years concerning functional literacy and what 'functional literacy

levels' ought to be . . . we have found no substantial research which attempts to determine how literate a person must be to function in some defined adult situation." Kirsch and Guthrie (1978), Olson (1975) and Fisher (1978) also pointed out the need for such research. The need exists, then, for picking out reading tasks encountered in everyday life, analyzing them, and ascertaining the competencies of people who actually complete these specific reading tasks.

In order to do this, it becomes necessary to identify one particular domain of life activities in which to examine the interplay of literacy demands and literacy competencies. This study proposes to examine job-literacy, recognizing that it is only one aspect of literacy demands. Job literacy was chosen because it has a clearly definable domain, because it was found by other studies to be a highly important literacy activity (Murphy, 1975; Northcutt et. al., 1975) and because of the implications for schools, ABE programs, business and industry, and the setting of literacy requirements for jobs.

In addition to the need for describing and analyzing literacy tasks encountered in a real life situation and for assessing the literacy competency needed by individuals who have to complete the tasks, considerably more information is also needed about the reading and writing <u>strategies</u> used by workers in performing or avoiding literacy tasks on jobs. How do workers approach different types of manuals, memos, texts, forms, directions, letters, etc.? What alternatives to literacy do workers perceive for gaining the same information, and what alternatives do they use to compensate for poor literacy skills? The answers to these questions are far more important than ascertaining the percentages of

functionally literate or illiterate workers. Job-realted reading and writing tasks might be rewritten or re-designed to more closely conform to strengths in workers' strategies. Training programs could more sensibly be designed to teach more efficient and useful (in terms of meeting actual literacy requirements) literacy strategies.

Attitudinal and behavioral factors related to job-literacy need to be examined, both to determine the influence of various factors on job-literacy competency, and to determine the implications of inadequate literacy competency on attitudes and behaviors. Do workers perform literacy tasks better if they feel a reading or writing mistake will affect their job or performance rating? Does job experience, especially in an occupation with repetitive, homogeneous tasks, enable a worker to deal with literacy materials of a difficulty greater than his/her supposed level of literacy, because of "repeated opportunities for gaining experience in the performance of the job tasks, including the reading and re-reading of materials used in support of the task?" (Sticht, 1977, p. 227). Are other behaviors or attitudes more important than literacy skill in job competence? (Scribner and Cole, 1973, for example, suggest that literacy is stressed--especially in formal education--often to the exclusion of the development of other practical human competencies, such as ability to work cooperatively, or practical know-how; Olson (1975) suggests that marginally literate individuals, while regarded as slow and dull, often make the best workers because of other attitudinal or behavioral characteristics). The interplay of various attitudinal and behavioral factors with literacy demands and competencies needs to be explored

if a true picture of job-literacy competence is to be captured.

Additionally, the effect of poor job-literacy skills on attitudes and behavior needs to be explored. A study of 23,000 Navy recruits, recently quoted by the New York Times News Service, found that, "recruits with reading problems were more likely to be dissatisfied, frustrated by lack of promotional opportunities, and more likely to desert than their literate counterparts . . . poor reading ability is also related to poor performance on the job . . ." (Kumbala, 1977). Murphy (1975) points out, in the missing variables section of the Adult Reading Study, that personality variables seem to play an important--and be an effect of--poor job-reading performance. He states: "To the extent that affective outcomes do constitute an important fraction of the link between schooling and earnings, our analysis must be regarded as seriously incomplete."

Job-literacy profiles (consisting of descriptions of literacy demands for a given job or occupation at various stages in the job--entry, training, on-the-job, re-training, etc.) need to be generated. Manpower specialists, employers, and personnel managers could use such information to set meaningful requirements (in terms of literacy skills) for jobs. A number of legal suits, beginning in the 1960s with a case brought against Duke Power Company in Durham, North Carolina, have resulted in the ruling that employers can no longer arbitrarily assign requirements for hiring or promotions; requirements must be based on actual tasks encountered on the job. A profile of literacy tasks--taking into account the attitudinal and behavioral influences on literacy competence--could serve to establish meaningful hiring requirements. Additionally, if literacy

requirements are inflated, as several researchers have suggested, lowered literacy requirements would results, enabling some job opportunities to be opened to more groups and individuals. Thus, a method of describing job-literacy tasks and job-literacy profiles is an area that needs research.

Statement of the Problem

This study is addressed to the areas of needed research previously outlined. Specifically, this study proposes

1. determine the actual literacy demands and levels of literacy difficulty encountered by 100 individuals in a random selection of jobs;
2. determine the competence of these adults in dealing with their job-related materials, and determine the strategies employed in using the written materials to accomplish job-tasks;
3. determine the relationship of job-literacy demands, competencies, and strategies to such attitudinal/behavioral elements as general reading ability, reading attitudes, reading experience, job experience, and attitudes towards the job;
4. examine the interrelationships of demands, competence and strategies, and attitudinal/behavioral factors in order to determine which elements have the most impact on job-success and job-literacy ability, and in order to refine (or disprove) the Job Literacy Model developed for this research;
5. examine differences in these various elements according to such

demographic variables as sex, race, level of schooling completed, employment status, income, job status, and job responsibility (as determined by the Dictionary of Occupational Titles, Department of Labor).

Description and Rationale

Most studies of functional literacy have centered around tasks representative of "minimal" or "functional" literacy demands (Fisher, 1978; Kirsch and Guthrie, 1978; Murphy, 1975; Northcutt, 1975; Harris, 1970, 1971; Vogt, 1975). Occasionally, researchers have also attempted to assess some sort of generalized reading ability or sometimes simply job performance ability through the use of normed cloze tests (Murphy, 1975) or concurrent reading/job performance paradigms (Sticht, 1975).

Approaches that use representative literacy tasks can only tell us about performance on representative, "minimal" tasks. Nothing is revealed about the varied nature of real job literacy demands, the attitudinal and behavioral influences on demands and competencies, and the strategies employed in meeting the demands. Sticht and his associates at HumRRO have developed some techniques for specifying the demands of a few occupations in the military, and they have developed useful techniques for ascertaining difficulty of materials and for describing the strategies of workers in meeting reading demands. However, Sticht's investigations were confined to the military. Because the military may differ markedly from civilian workplaces in speed of training, in hiring and

promotion policies and criteria, in number of years experience workers have at a given job, and in the relative age and background of workers, it is probably inappropriate to generalize results gained in the military situation to the civilian workplace. Furthermore, Sticht et. al. do not address the various attitudinal and behavioral interactions with literacy demands mentioned earlier. Sticht et. al. provide some techniques which are incorporated, with revisions, in this study. A number of other variables are included in this study, in an attempt to take a broader look at job-literacy, and in an attempt to address the civilian and the sociolinguistic context of real job-literacy demands. Lastly, this study proposes to treat literacy as a continuum, and will investigate job-literacy demands at several job levels.

An important step for elevating the study of job-literacy above generalized reading ability and above minimal standards, is the creation of a model representative of actual literacy events. Such a model needs to allow for interactions that occur between literacy demands, literacy competence, various literacy strategies, and a number of attitudinal and behavioral dispositions associated with literacy/illiteracy.

Conceptual Framework

A literacy model that is sensitive to the interrelated aspects of job literacy needs to account for a number of elements. These elements can be rationally grouped under the categories of Literacy Demands, Literacy Strategies, and Attitudinal/Behavioral Dispositions related to literacy.

Literacy Demands: In order to analyze the literacy demands of any given job, a number of elements must be taken into account. Listed below are elements to be accounted for as aspects of literacy demands:

A. Current literacy demands

- Difficulty of material (readability of two reading samples; self-assessed difficulty)
- Reading/Writing scope (a profile of the variety of literacy tasks encountered on a job. May be analyzed task by task or as a quantified whole. Consists of the number of types of reading and writing materials cited and an analysis of five specific reading and five writing tasks)
- Reading/Writing Depth (A profile of the complexity of literacy tasks encountered ranging from skimming for one piece of information in a reading-to-do task to employing complex study strategies in a reading-to-learn task. Analyzed separately or as a quantified whole)
- Alternatives Available (access to necessary job-information via non-literacy related sources, i.e. peers, supervisors, etc.)
- Time spent reading and writing on the job per day.

B. Job-literacy demand profile

- Index of current job-literacy demands (derived from factors listed above)
- Index of job-entry demands (derived from identical factors listed above)
- Index of job-training and re-training demands (derived from estimated time spent reading/writing per day and from reported literacy materials used)

Literacy Strategies: A literate individual must have the flexibility to efficiently deal with a variety of reading and writing demands. Selecting appropriate and effective literacy strategies is necessary if an individual is to completely meet the literacy demands of a given job. Through a field-testing of the instrumentation to be used in this study, and by examination of related studies (notably Sticht, 1976, 1977), a system for categorizing strategies has been developed. This system will be used for research purposes and will be refined and elaborated upon as needed. Literacy strategies will be assessed through open-ended questions, role-plays, and task completions. Broadly, strategies will be coded into 4 major areas and several sub-areas:

A. Reading-to-learn tasks (in which the individual applies strategies designed to ensure retention of material read)

   1. Reread/Rehearse (involves repeating the processing of information taken from the test, with minimal elaboration or transformation)
   2. Problem Solve/Question (Involves answering text questions, solving problems in text)
   3. Relate/Associate (Involves the use of mnemonics; discussion of material; associations of new information with other information)
   4. Focus Attention (involves activities which reduce the amount of information in some way, e.g. underlining, outlining, taking notes)

B. Reading-to-do-tasks with no incidental learning (Involves using material as a reference or 'exterior memory' for completing a task)

   1. Fact-finding in text

2. Fact-finding using charts, graphs, tables, etc.

3. Following directions using text

4. Following directions using charts, graphs, tables, etc.

C. Reading-to-do tasks with incidental learning (Involves using material as a reference to complete a task, but learning the material in the process so that the material ceases to function as 'external memory')

1. Use of special study strategy (like ones mentioned in A, e.g. re-read/rehearse, focus attention, etc.)

2. Repetition of reading tasks over days or months caused learning to occur (several trial learning)

3. Application of the reading information to a job task once caused learning to occur (single trial learning; e.g. a worker reads directions, does the task, and henceforth remembers how to do the task without referring back to the directions)

D. Reading to assess (Involves strategies aimed at quickly going through material in order to reach decisions about its use)

1. Assessing usefulness for a particular task

2. Assessing whether to read the material more carefully later (or to use the material later to help prepare reports, etc.)

3. Assessing whether to pass the materials on to someone else

4. Other (this is then specified by the interviewer)

Once the strategies employed have been determined for five recent literacy tasks, workers will be scored on: a) the number of different strategies used;

b) the variety of strategy types (e.g. reading-to-learn; reading-to-assess) used; c) the identification of difficulties encountered; and d) importance of the particular task. These scores will provide the basis for assessing the "Strategies" component of the Literacy Model.

Attitudinal/Behavioral Dispositions Related to Literacy: The attitudes and behaviors an individual demonstrates in relation to literacy are interrelated with both the strategies employed by the individual, and with the scope and depth of literacy in which that individual particpates. How one acts and feels in relation to literacy and job-literacy demands influences the efficiency and the thoroughness with which the literacy aspects of that job can be performed. Additionally, literacy competence can affect attitudes and behaviors. Listed below are elements associated with Attitudinal/Behavioral Dispositions Related to Literacy:

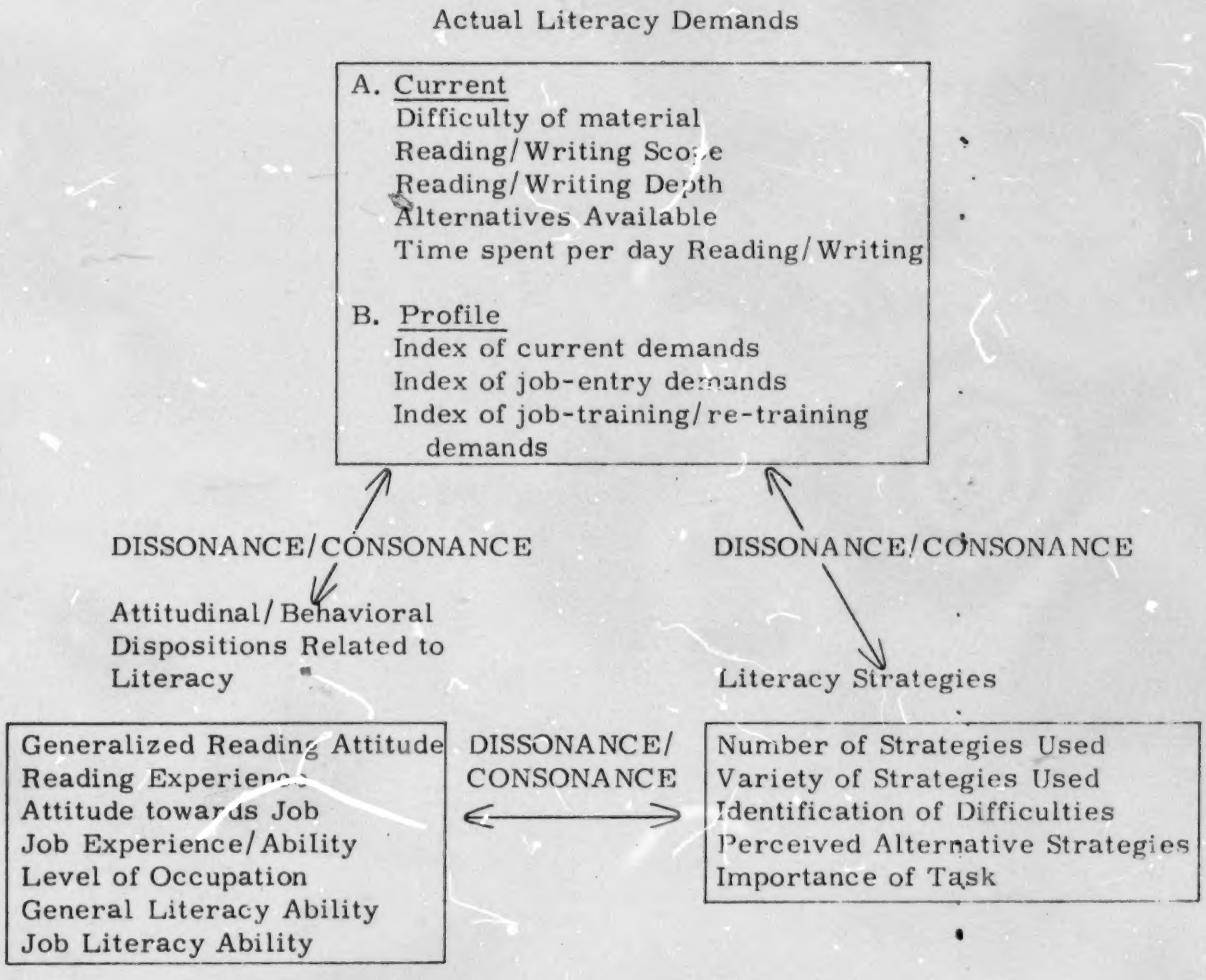
- Generalized reading attitude (Mikulecky Behavioral Reading Attitude Measure; Mikulecky, 1976.)
- Reading experience (including total time reading per day; variety of motivation; intensity of motivation; flexibility in reading)
- Attitude towards job (including interest in job; comfort with demands of job; desire to change occupation)
- Job experience/ability (including number of years on job or similar job; self-perceived ability; supervisor or interviewer rating)
- Level of occupation (including felt prestige; classification of job; income)
- General literacy ability (including score on normed cloze test; highest

grade completed; self-perceived abilities)

-Job-literacy ability (including self-assessment; score on cloze test designed from actual job materials).

Figure 1:

LITERACY MODEL



Literacy Model

It is likely that each component combines with others to improve or detract from the literacy efficiency of the individual. Some elements may be more key than others and interrelationships between elements may exist. (Based on model formulated for NIE proposal, Mikulecky, 1977).

CONCLUSION

This proposed study would attempt to diagnose the nature of adult literacy on two levels. Initially, accurate information will be sought concerning actual job literacy demands, strategies, and attitudinal/behavioral dispositions related to job literacy. This information will be sought in a representative, randomly selected cross section of the adult population in order to accurately determine what is meant by job literacy in this country. More specifically this means the study will attempt to:

- determine the scope of literacy demands and levels of literacy difficulty experienced on various jobs;
- determine the strategies perceived and used by adults in reading and writing or avoiding reading and writing of job-related materials;
- determine the competence of adults in dealing with general reading/writing demands and also when specifically dealing with job-realted material; and
- determine relevant attitudinal and behavioral dispositions of adults in relation to job literacy.

Secondly, the various elements of the literacy model presented in this study will be examined to determine which elements are key, which elements have significant contributive effects, and which elements differ significantly when grouped and analyzed by such demographic variables as Income, Education Level, Employment Status, and Occupation Level. Appropriate linear regression models, and analysis of variance techniques will be employed.

Implications

This study will provide us with information about the literacy demands of various jobs, the ability of workers to use materials, and the attitudinal/ behavioral correlates of job literacy. Use of this information will have several implications:

-It should indicate to high schools the type of reading instruction needed to prepare youth for the world of work.

-It should indicate to industry and business some promising directions, strategies and programs to help upgrade employees' literacy competence and job performance.

-It should indicate to professionals in all areas of adult education areas of emphases for programs, the types of materials most meaningful, and the possible structure of programa necessary to reach individuals in need of training.

-It should indicate to people who write job manuals and other job-related materials the considerations that they need to take into account for these

materials to be used by the majority of workers.

-It should indicate to government, as well as industry, the real extent of job literacy problems, and it should encourage these institutions--if the problems are real and great--to provide more support for job-related literacy. It may also indicate that many people who are unemployed are also illiterate, and this study may suggest that government job-training programs include job-related literacy instruction.

-Perhaps most importantly, such a study would enable researchers to examine functional literacy in a variable context, unconfounded by the historical and symbolic influences on literacy. As this paper has indicated, it is vital to move away from such influences if the real nature of literacy is to be understood, assessed, and promoted.

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